

Department of Energy

Richland Operations Office
P.O. Box 550
Richland, Washington 99352
JAN 24 1994

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94-ERB-040

Mr. Dennis J. Cannon
U.S. Army Corps of Engineers
Hanford Program Office, MSIN A5-20
Richland, Washington 99352



Dear Mr. Cannon:

EXCAVATION PERMITS FOR U.S. ARMY CORPS OF ENGINEERS (USACE) WORK ON THE 1100 AREA, ARID LANDS ECOLOGY (ALE) FACILITY, AND NORTH SLOPE

Effective immediately, USACE is no longer required to obtain excavation permits from Westinghouse Hanford Company (WHC) for work on areas not managed by WHC. This includes the North Slope, the ALE, and the 1100-IU-1 Operable Unit located on the ALE. However, you are still required to obtain the necessary National Environmental Policy Act, cultural resource clearances, and ecological resource surveys follow the USACE "Safety and Health Requirements Manual" (EM 385-1-1) dated October 1, 1992, and interface with the cognizant facility manager which, in the case of the ALE, is Mr. Lee Rogers, Pacific Northwest Laboratory, on 376-8256.

Since work on the 1100-EM-1, EM-2, and EM-3 Operable Units will be performed in WHC-managed areas, you will still be required to obtain excavation permits in accordance with WHC's manual WHC-CM-8-7, Section 503.1, Revision 1, dated April 3, 1992. Some of the reasons for obtaining the excavation permits are to make sure that no underground utilities or adjacent facilities are affected by the construction work and that the appropriate WHC facility manager is informed about the nature of the work. Your various points of contact at WHC for obtaining 1100 Area excavation permits are defined in the WHC manual.

If you or your staff have any questions about this, please contact Mr. Walter D. Perro on 372-3704.

Sincerely,

Julie K. Erickson, Director
Environmental Remediation Division

END:WDP

cc: R. Chong, USACE
J. A. Gardner-Clayson, USACE
W. L. Johnson, WHC
G. V. Last, PNL
L. E. Rogers, PNL
T. M. Wintczak, WHC
M. K. Wright, PNL



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2. To: (Receiving Organization) Distribution	3. From: (Originating Organization) Groundwater Well Services	4. Related EDT No.: N/A
5. Proj./Prog./Dept./Div.: Environmental Restoration	6. Cog. Engr.: M. G. Gardner	7. Purchase Order No.: N/A
8. Originator Remarks: This Engineering Data Transmittal (EDT) File transmits construction status information, fitness-for-use evaluations and disposition recommendations for 25 wells to groundwater on the North Slope and within the Arid Land Ecology Reserve, Hanford Site.		9. Equip./Component No.: N/A
11. Receiver Remarks: N/A		10. System/Bldg./Facility: N/A
		12. Major Assm. Dwg. No.: N/A
		13. Permit/Permit Application No.: N/A
		14. Required Response Date: TBD

15. DATA TRANSMITTED					(F)	(G)	(H)	(I)
(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	Impact Level	Reason for Transmittal	Originator Disposition	Receiver Disposition
1	EDT File Introduction, Table of Contents and Well Location Map	Pg 1-2	N/A	Introduction, Table of Contents and Well Location Map for 16 groundwater wells	4	3		
2	Well 699-S25-51 (Hodges Ranch)	Pgs 1-3	N/A	EII 6.6 package for 699-S25-51	3E	4		
3	Well 699-S18-51 (Army well H52L)	Pgs 1-3	N/A	EII 6.6 package for 699-S18-51	3E	4		
4	Well 699-S12-29 (GW mon)	Pgs 1-4	N/A	EII 6.6 package for 699-S12-29	3E	4		
5	Well 699-3-45 (GW mon)	Pgs 1-4	N/A	EII 6.6 package for 699-S9-63B	3E	4		

16. KEY			
Impact Level (F)	Reason for Transmittal (G)	Disposition (H) & (I)	
1, 2, 3, or 4 (see MRP 5.43)	1. Approval 2. Release 3. Information 4. Review 5. Post-Review 6. Dist. (Receipt Acknow. Required)	1. Approved 2. Approved w/comment 3. Disapproved w/comment	4. Reviewed no/comment 5. Reviewed w/comment 6. Receipt acknowledged

(G)	(H)	17. SIGNATURE/DISTRIBUTION (See Impact Level for required signatures)								(G)	(H)
Reason	Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(J) Name	(K) Signature	(L) Date	(M) MSIN	Reason	Disp.
		Cog.Eng. M. G. Gardner			N3-06	R. Chong					
		Cog. Mgr. D. J. Moak			N3-05	S. P. Luttrell			K6-96		
		QA N/A				J. Fassett			H6-06		
		Safety N/A									
		Env. K. A Gano			X0-21						
		Geosciences K. R. Fecht			H6-06						

18. Signature of EDT Originator _____ Date _____	19. Authorized Representative _____ Date _____ for Receiving Organization	20. Cognizant/Project Engineer's Manager _____ Date _____	21. DCE APPROVAL (if required) Ltr. No. <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/comments <input type="checkbox"/> Disapproved w/comments
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ENGINEERING DATA TRANSMITTAL

(CONTINUATION PAGE)

5. Proj./Prog./Dept./Div.: Environmental Restoration	6. Cog. Eng. M. G. Gardner	1. EDT 600202	Page 2 of 2
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15. DATA TRANSMITTED					(F)	(G)	(H)	(I)
(A) Item No.	(B) Document/ Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	Impact Level	Reason for Trans- mittal	Orig- inator Dispo- sition	Receiver Dispo- sition
6	Well 699-10-99 (Shedds #11)	Pgs 1-4	N/A	EII 6.6 package for 699-13-64	3E	4		
7	Well 699-13-64 GW mon	Pgs 1-4	N/A	EII 6.6 package for 699-13-64	3E	4		
8	Well 699-17-70 GW mon	Pgs 1-4	N/A	EII 6.6 package for 699-17-70	3E	4		
9	Well 699-19-88 GW mon	Pgs 1-4	N/A	EII 6.6 package for 699-19-88	3E	4		
10	Well 699-20-82 (Benson Ranch)	Pgs 1-4	N/A	EII 6.6 package for 699-20-82	3E	4		
11	Well 699-24-95 GW mon	Pgs 1-4	N/A	EII 6.6 package for 699-24-95	3E	4		
12	Well 699-26-89 GW mon	Pgs 1-4	N/A	EII 6.6 package for 699-26-89	3E	4		
13	Well 699-36-93 GW mon	Pgs 1-4	N/A	EII 6.6 package for 699-36-93	3E	4		
14	Well 699-37-92 GW mon	Pgs 1-4	N/A	EII 6.6 package for 699-37-92	3E	4		
15	Well 699-39-103 Charact	Pgs 1-4	N/A	EII 6.6 package for 699-39-103	3E	4		
16	Well 699-43-104 GW mon	Pgs 1-4	N/A	EII 6.6 package for 699-43-104	3E	4		
17	Well 699-79-104 (PSN 82)	Pgs 1-4	N/A	EII 6.6 package for 699-79-104	3E	4		
18	Well 699-86-95 (PSN H83C)	Pgs 1-4	N/A	EII 6.6 package for 699-86-95	3E	4		
19	Well 699-92-14 (PSN 505)	Pgs 1-4	N/A	EII 6.6 package for 699-92-14	3E	4		
20	Well 699-93-93 (PSN H83L)	Pgs 1-4	N/A	EII 6.6 package for 699-93-93	3E	4		
21	Well 699-107-79 (PSN 410)	Pgs 1-3	N/A	EII 6.6 package for 699-107-79	3E	4		
22	Well 699-108-20 (PSN 500-1)	Pgs 1-4	N/A	EII 6.6 package for 699-108-20	3E	4		
23	Well 699-111-24 (Psn 500-1)	Pgs 1-4	N/A	EII 6.6 package for 699-111-24	3E	4		
24	Well 699-112-37 (PSN 535)	Pgs 1-4	N/A	EII 6.6 package for 699-112-37	3E	4		
25	Well 699-115-61 (PSN 420)	Pgs 1-4	N/A	EII 6.6 package for 699-115-61	3E	4		
26	Well 699-115-7 (DH-4 corehole)	Pgs 1-4	N/A	EII 6.6 package for 699-115-7	3E	4		

ENGINEERING DATA TRANSMITTAL FILE
EDT 600202

INTRODUCTION

This engineering data transmittal (EDT) file provides well construction and completion summary drawings and resource protection groundwater well structure fitness for use checklists for 26 gas field and groundwater wells located on the north slope and the Arid Land Ecology study area, Hanford Site.

This information is compiled as a part of the fitness for use evaluation process contained in environmental investigations instruction (EII) 6.6. A proposed diagrammatic well decommissioning plan is also included when decommissioning of a well is recommended.

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Item 22. Well 699-108-20 EII 6.6 Package	84
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Item 25. Well 699-115-61 EII 6.6 Package	96
Item 26. Well 699-115-7 EII 6.6 Package	100
Last page	104

REFERENCES

- WHC-CM-7-7, Environmental Investigations and Site characterization Manual.
EII 6.6, "Resource Protection Well Characterization and Evaluation."
- PNL-6907, HANFORD WELLS, 1989, V. L. McGhan, Pacific Northwest Laboratory,
Richland, Washington.

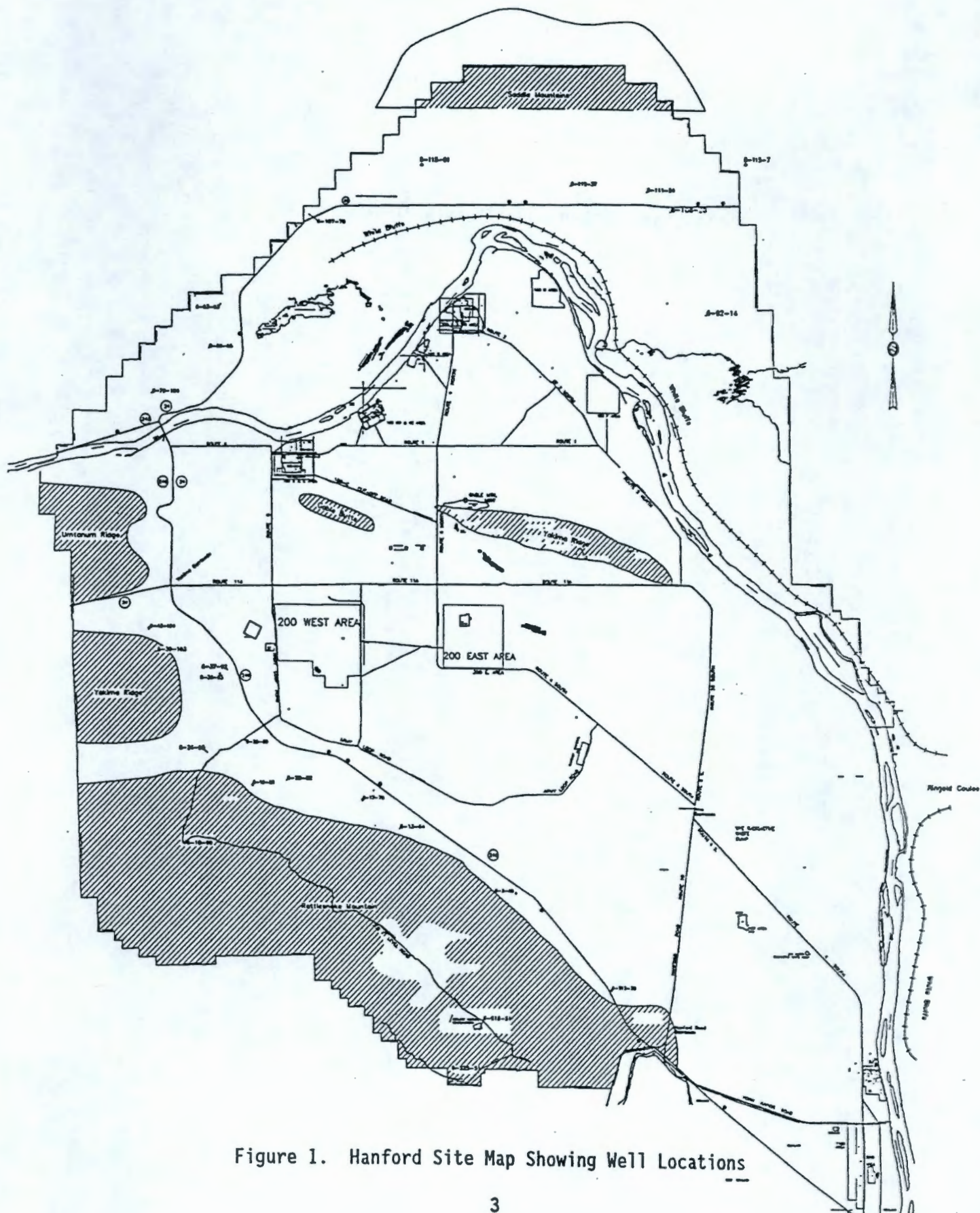



Figure 1. Hanford Site Map Showing Well Locations

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WELL CONSTRUCTION AND COMPLETION SUMMARY			
Drilling Method: <u>Cable tool</u> Fluid Used: <u>Not documented</u> Driller's Name: <u>Not documented</u> Company: <u>Not documented</u> Date Started: <u>Oct71</u>	Sample Method: <u>Hard tool (nom)</u> Additives Used: <u>Not documented</u> WA State Lic Nr: <u>Not documented</u> Company Location: <u>Not documented</u> Date Complete: <u>Unknown 19??</u>	WELL NUMBER: <u>699-S25-51</u> Hanford Coordinates: N/S <u>S 24,500</u> E/W <u>W 51,000</u> State NAD83 N <u>116,006.29m</u> E <u>274,397.94m</u> Coordinates: N <u>N 380,671</u> E <u>2,244,388</u> Start Card #: <u>Not documented</u> T <u> </u> R <u> </u> S <u> </u> Elevation Ground surface: <u>Not documented</u>	
Depth to water: <u>Not documented</u> (Ground surface) GENERALIZED STRATIGRAPHY Driller's Log None available		 <div style="position: absolute; left: 505px; top: 240px;"> Elevation of reference point: [1,320-ft] (top of casing) Height of reference point above [ND] ground surface </div> <div style="position: absolute; left: 505px; top: 295px;"> Depth of surface seal [ND] No surface seal documented: </div> <div style="position: absolute; left: 505px; top: 425px;"> 6-in ID carbon steel casing, <u>+ND+ND</u> </div> <div style="position: absolute; left: 505px; top: 470px;"> Hole diameter, <u>Not documented</u> </div> <div style="position: absolute; left: 505px; top: 580px;"> No perforations documented </div> <div style="position: absolute; left: 505px; top: 745px;"> Borehole drilled depth: [420-ft] </div>	
Drawing By: <u>RKL/6S25W51.ASB</u> Date : <u>25Oct93</u> Reference : <u>HANFORD WELLS</u>			

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST		1. Well No. 699-S25-51
		Page 1 of 2
2. Has a need for use of the well been identified and documented? [<u>Yes</u>] <u>Rattlesnake Observatory water supply</u>		
3. Is well presently in use? [<u>Yes</u>] <u>Yes-has pump house</u>		
4. Is casing sealed in accordance with IAW WAC 173-160-075? [<u>ND</u>] _____		
4a. Natural barriers preserved? [<u>ND</u>] _____		
4b. Aquifer/strata penetrated permanently sealed? [<u>ND</u>] _____		
4c. Annulus sealed against surface water? [<u>ND</u>] _____		
4d. Casing overlap more than 8 ft; packed and grouted? [<u>ND</u>] _____		
5. If not in use, is well capped IAW WAC 173-160-085? [<u>ND</u>] _____		
6. Is design and construction IAW WAC 173-160-500? [<u>N/A</u>] <u>Well is not resource protection well</u>		
6a. Saturated formation/aquifers not connected? [<u>N/A</u>] _____		
6b. Cuttings/development water handled IAW WAC 173-303? [<u>N/A</u>] _____		
6c. Well properly identified? [<u>N/A</u>] _____		
7. Is surface protection IAW WAC 173-160-510? [<u>N/A</u>] _____		
7a. Well capped and protected? [<u>N/A</u>] <u>Has pump house</u>		
7b. Protective posts, surface pad or cover installed? [<u>N/A</u>] _____		
7c. Surface protection waived or variance obtained? [<u>N/A</u>] _____		
7d. Is existing surface protection damaged? [<u>N/A</u>] _____		
8. Are casing materials IAW 173-160-520? [<u>N/A</u>] _____		
9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530? [<u>N/A</u>] _____		
9a. Drill rig/equipment casing/screen cleaned? [<u>N/A</u>] _____		
9b. Filter pack cleaned? Material compatible? [<u>N/A</u>] _____		
RCRA/CERCLA MONITORING WELL?		
10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>N/A</u>] _____		
10a. Screened interval documented? [<u>N/A</u>] _____		
10b. Vertical lithology documented? [<u>No</u>] <u>No driller's log</u>		

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST		1. Well No. 699-S25-51
		Page 2 of 2
11. Is design and construction IAW WAC 173-160-540? [<u>N/A</u>] _____		
11a. Screen commercially fabricated of material nonreactive to subsurface conditions? [<u>N/A</u>] _____		
11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen. [<u>N/A</u>] _____		
11c. Well has been developed. [<u>N/A</u>] _____		
11d. Annulus grouted with bentonite or bentonite/cement mixture. [<u>N/A</u>] _____		
12. Does water sample meet established acceptance criteria? Sample is less than 5 NTU and sand free. [<u>N/A</u>] _____		
13. Data Sources Used:		
Logs:		
Driller's: <u>Not documented</u>	Date: _____	Company: _____
Geologist: <u>N/A</u>	Date: _____	Company: _____
Geophysical: <u>N/A</u>	Date: _____	Company: _____
Television: <u>N/A</u>	Date: _____	Company: _____
Publications: Title, Author, Date		
<u>None</u>		
Databases:		
<u>N/A</u>		
Field Check: <u>N/A</u>		
Date: _____ Company: _____		
Other:		

14. Comments: Identify evaluation criteria addressed by number: <u>[15] Well is in beneficial use. No construction data available.</u> <u>Should be accepted "as is" as constructed before WAC 173-160 effective</u> <u>date. Shallow depth of 420-ft precludes aquifer interconnection.</u> _____ _____ _____ _____ _____ _____ _____		
15. Status		
Well is acceptable for intended use	[<u>Yes</u>]	<u>See comments</u>
Well is acceptable for intended use if variance is granted	[<u>N/A</u>]	_____
Rehabilitation required to continue intended use	[<u>No</u>]	<u>Accept as is</u>
Remediation required to achieve intended use	[<u>No</u>]	<u>Accept as is</u>
Decommission, well is unneeded or cannot be remediated	[<u>No</u>]	<u>Well in beneficial use</u>
Other	[_____]	_____
16. Status Recommendation		
Done By: Name: <u>R. K. Ledgerwood</u>	Title: <u>Principal Scientist</u>	Date: <u>10/22/93</u>

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WELL CONSTRUCTION AND COMPLETION SUMMARY			
Drilling Method: <u>Cable tool</u> Fluid Used: <u>Not documented</u> Driller's Name: <u>Not documented</u> Company: <u>Midland Drilling Co</u> Date Started: <u>Not documented</u>	Sample Method: <u>Hard tool</u> Additives Used: <u>Not documented</u> WA State Lic Nr: <u>Not documented</u> Company Location: <u>Walla Walla WA</u> Date Complete: <u>May58</u>	WELL NUMBER: <u>699-S18-51</u> Hanford Coordinates: N/S <u>18,000</u> E/W <u>51,000</u> State Coordinates: N <u>387,171</u> E <u>2,244,371</u> Start Card #: <u>Not documented</u> T11N R26E S34R Elevation Ground surface (ft): <u>Not documented</u>	
Depth to water: <u>800-ft May58</u>			
GENERALIZED Driller's STRATIGRAPHY Log			
0-7: TOPSOIL 7-12: Yellow CLAY 12-41: Cemented GRAVEL 41-100: Gray, hard BASALT 100-150: Clay and rock CONGLOMERATE 150-667: BASALT, dark med to hard (Gas pocket, 627-628-ft) 667-705: Green CLAY 705-720: Broken BASALT & CLAY 720-724: Green CLAY 724-738: Broken BASALT & CLAY 738-755: BASALT, dark-hard 755-765: BASALT-broken 765-778: BASALT, dark-med 778-947: BASALT, dark-hard & med 947-948: Water bearing crevice 948-1,000: BASALT, dark-hard			
Drawing By: <u>RKL/6S18N51.ASB</u> Date: <u>30Jul93</u> Reference: _____			

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	<div style="border: 1px solid black; padding: 2px;">1. Well No. 699-S18-51</div> <div style="border: 1px solid black; padding: 2px; text-align: center;">Page 1 of 2</div>				
<p>2. Has a need for use of the well been identified and documented? <input checked="" type="checkbox"/> <u>Yes</u> <u>Well is in beneficial use as a water supply well</u></p> <p>3. Is well presently in use? <input checked="" type="checkbox"/> <u>Yes</u> <u>Water supply to ALE headquarters</u></p> <p>4. Is casing sealed in accordance with IAW WAC 173-160-075? <input checked="" type="checkbox"/> <u>Yes</u> <u>Well has multiple cement grout casings</u></p> <p>4a. Natural barriers preserved? <input checked="" type="checkbox"/> <u>Yes</u> <u>Interbeds and gas zone cased and sealed</u></p> <p>4b. Aquifer/strata penetrated permanently sealed? <input checked="" type="checkbox"/> <u>Yes</u> <u>All casings are cement grouted</u></p> <p>4c. Annulus sealed against surface water? <input checked="" type="checkbox"/> <u>Yes</u> <u>Has surface casing and concrete pump housing</u></p> <p>4d. Casing overlap more than 8 ft; packed and grouted? <input checked="" type="checkbox"/> <u>Yes</u> <u>See attached construction drawing</u></p> <p>5. If not in use, is well capped IAW WAC 173-160-085? <input checked="" type="checkbox"/> <u>NA</u> <u>Well is in use</u></p> <p>6. Is design and construction IAW WAC 173-160-500? <input checked="" type="checkbox"/> <u>NA</u> <u>Well is in use</u></p> <p>6a. Saturated formation/aquifers not connected? <input checked="" type="checkbox"/> <u>Yes</u> <u>Connection prevented by grouted casings</u></p> <p>6b. Cuttings/development water handled IAW WAC 173-303? <input checked="" type="checkbox"/> <u>NA</u> <u>Well drilled before effective date of WAC 173-303</u></p> <p>6c. Well properly identified? <input checked="" type="checkbox"/> <u>No</u> <u>Well does not have permanent ID</u></p> <p>7. Is surface protection IAW WAC 173-160-510? <input checked="" type="checkbox"/> <u>NA</u> <u>Well is not a resource protection well</u></p> <p>7a. Well capped and protected? <input checked="" type="checkbox"/> <u>NA</u></p> <p>7b. Protective posts, surface pad or cover installed? <input checked="" type="checkbox"/> <u>NA</u></p> <p>7c. Surface protection waived or variance obtained? <input checked="" type="checkbox"/> <u>NA</u></p> <p>7d. Is existing surface protection damaged? <input checked="" type="checkbox"/> <u>NA</u></p> <p>8. Are casing materials IAW 173-160-520? <input checked="" type="checkbox"/> <u>NA</u></p> <p>9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530? <input checked="" type="checkbox"/> <u>NA</u></p> <p>9a. Drill rig/equipment casing/screen cleaned? <input checked="" type="checkbox"/> <u>NA</u></p> <p>9b. Filter pack cleaned? Material compatible? <input checked="" type="checkbox"/> <u>NA</u></p> <tr><td colspan="2"><div style="border: 1px solid black; padding: 2px;">RCRA/CERCLA MONITORING WELL?</div></td></tr> <tr><td colspan="2"><p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? <input checked="" type="checkbox"/> <u>NA</u></p><p>10a. Screened interval documented? <input checked="" type="checkbox"/> <u>NA</u> <u>No screen</u></p><p>10b. Vertical lithology documented? <input checked="" type="checkbox"/> <u>Yes</u> <u>Driller's log</u></p></td></tr>		<div style="border: 1px solid black; padding: 2px;">RCRA/CERCLA MONITORING WELL?</div>		<p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? <input checked="" type="checkbox"/> <u>NA</u></p> <p>10a. Screened interval documented? <input checked="" type="checkbox"/> <u>NA</u> <u>No screen</u></p> <p>10b. Vertical lithology documented? <input checked="" type="checkbox"/> <u>Yes</u> <u>Driller's log</u></p>	
<div style="border: 1px solid black; padding: 2px;">RCRA/CERCLA MONITORING WELL?</div>					
<p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? <input checked="" type="checkbox"/> <u>NA</u></p> <p>10a. Screened interval documented? <input checked="" type="checkbox"/> <u>NA</u> <u>No screen</u></p> <p>10b. Vertical lithology documented? <input checked="" type="checkbox"/> <u>Yes</u> <u>Driller's log</u></p>					

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST		1. Well No. 699-S18-51
		Page 2 of 2
11. Is design and construction IAW WAC 173-160-540?		
[<u>NA</u>] <u>Not a resource protection well</u>		
11a. Screen commercially fabricated of material nonreactive to subsurface conditions?		
[<u>NA</u>]		
11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.		
[<u>NA</u>]		
11c. Well has been developed.		
[<u>Yes</u>] <u>Developed during completion</u>		
11d. Annulus grouted with bentonite or bentonite/cement mixture.		
[<u>NA</u>]		
12. Does water sample meet established acceptance criteria?		
Sample is less than 5 NTU and sand free.		
[<u>NA</u>]		
13. Data Sources Used:		
Logs:		
Driller's: <u>Midland Drilling, Walla Walla WA</u>	Date: <u>05/07/58</u>	Company: _____
Geologist: <u>NA</u>	Date: _____	Company: _____
Geophysical: <u>NA</u>	Date: _____	Company: _____
Television: <u>NA</u>	Date: _____	Company: _____
Publications: Title, Author, Date		
<u>HANFORD WELLS, V. L. McGhan, June 1989</u>		
Databases:		
<u>WHC GWWS Paradox</u>		
Field Check: <u>WHC GWWS</u>	Date: <u>07/16/93</u>	Company: _____
Other: _____		

14. Comments: Identify evaluation criteria addressed by number:		
<u>[15] Well is in beneficial use as a water supply well. Documented</u>		
<u>construction is acceptable for water well use.</u>		
<u>No lead packers were documented in this well.</u>		

15. Status		
Well is acceptable for intended use	[<u>Yes</u>]	<u>Acceptable for water supply</u>
Well is acceptable for intended use if variance is granted	[<u>NA</u>]	_____
Rehabilitation required to continue intended use	[<u>No</u>]	_____
Remediation required to achieve intended use	[<u>No</u>]	_____
Decommission, well is unneeded or cannot be remediated	[<u>No</u>]	_____
Other	[<u>NA</u>]	_____
16. Status Recommendation		
Done By: Name: <u>R. K. Ledgerwood</u>	Title: <u>Principal Scientist</u>	Date: <u>10/20/93</u>

WELL CONSTRUCTION AND COMPLETION SUMMARY

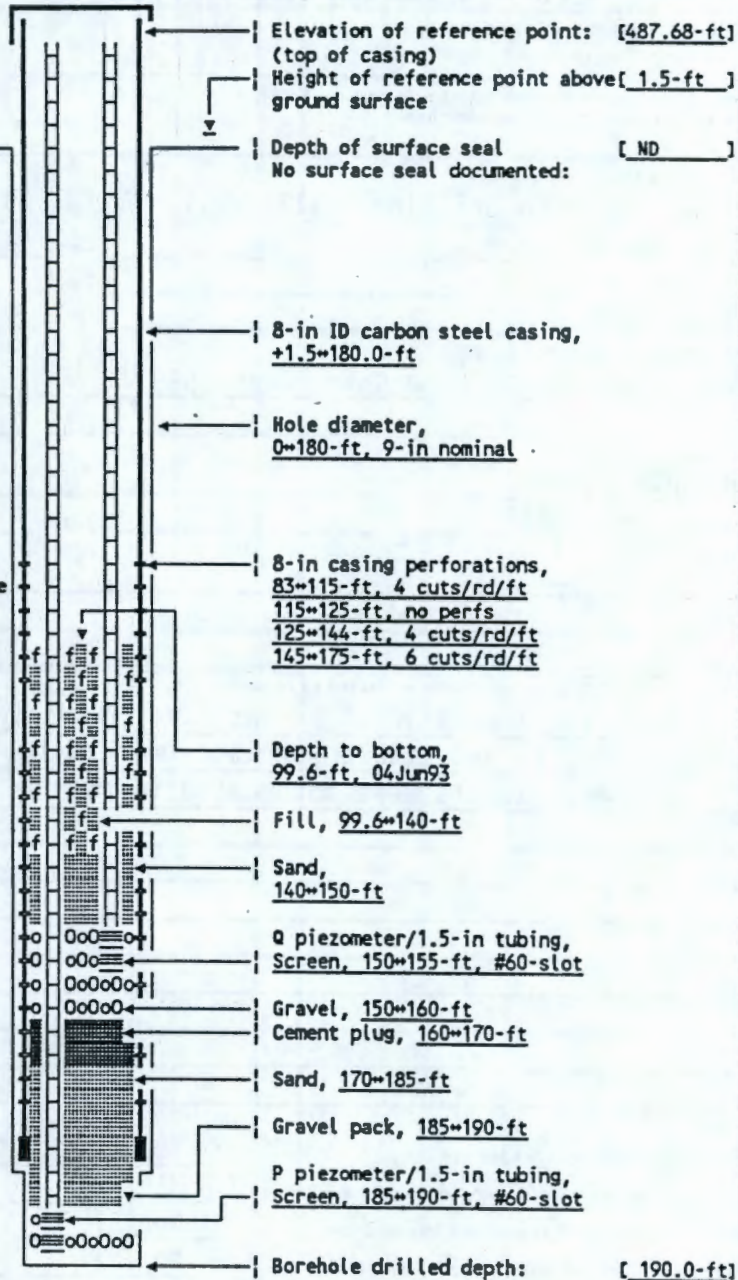
Drilling Method: <u>Cable tool</u>	Sample Method: <u>Hard tool (nom)</u>	WELL NUMBER: <u>699-S12-29</u>	TEMPORARY WELL NO: <u>699-S12-30</u>
Drilling Fluid Used: <u>Water</u>	Additives Used: <u>Not documented</u>	Hanford Coordinates: N/S <u>S 11,694</u> E/W <u>W 29,467</u>	
Driller's Two shifts	WA State	State Coordinates: N <u>393,532</u> E <u>2,265,888</u>	
Name: <u>E. Wilcox//L. Smith</u>	Lic Nr: <u>Not documented</u>	Start Card #: <u>Not documented</u>	T <u> </u> R <u> </u> S <u> </u>
Drilling Company: <u>I Haden Drilling Co</u>	Location: <u>Not documented</u>	Elevation	
Date Started: <u>22Oct62</u>	Date Complete: <u>25Oct62</u>	Ground surface: <u>486.2-ft Estimated</u>	

Depth to water: 115-ft 24Oct62
(Ground surface) 82.0-ft 04Jun93

GENERALIZED Driller's
STRATIGRAPHY Log

0~60: Med and fine SAND, trace SILT light gray
60~62: Med with fine SAND, 1-IN GRAVEL, trace of SILT, gray
62~80: Hard cemented GRAVEL, with trace SILT, gray
80~110: Basalt GRAVEL w/SILT, gray
110~124: Fine cuttings of BASALT and fine SAND
124~130: Lt blue CLAY w/trace SHALE
130~135: Lt blue CLAY w/fine SAND
135~140: Blue shale CLAY, trace of SAND and CALICHE
140~145: SAND w/blue shale CLAY and CALICHE material
145~160: Very tightly packed SAND with bit of basalt GRAVEL and CLAY or CALICHE
160~165: Shale CLAY and CALICHE, lt blue
165~175: Blue CLAY w/trace SHALE and CALICHE
175~178: Brown and blue SHALE and CALICHE, trace BASALT
178~190: BASALT, w/trace SHALE

REMEDATIONS:
Not documented
Installed PVC piezometers
Dec75 by M. Bultena
Cleaned out well and removed piezometers
Apr77 by M. Bultena
Installed P and Q piezometers



Drawing By: RKL/6S12W29.ASB
Date: 23Sep93
Reference: HANFORD WELLS

DIAGRAMMATIC WELL DECOMMISSIONING PLAN		
Drilling Method: <u>Cable tool</u> Drilling Fluid Used: <u>Water</u> Driller's Two shifts Name: <u>E. Wilcox//L. Smith</u> Drilling Company: <u>I Haden Drilling Co</u> Date Started: <u>22Oct62</u> Date Complete: <u>25Oct62</u>	Sample Method: <u>Hard tool (nom)</u> Additives Used: <u>Not documented</u> WA State Lic Nr: <u>Not documented</u> Company Location: <u>Not documented</u>	WELL NUMBER: <u>699-S12-29</u> Hanford Coordinates: N/S <u>S 11,694</u> E/W <u>W 29,467</u> State Coordinates: N <u>393,532</u> E <u>2,265,888</u> Start Card #: <u>Not documented</u> T <u> </u> R <u> </u> S <u> </u> Elevation Ground surface (ft): <u>486.2 Estimated</u>
Depth to water: <u>115-ft 24Oct62</u> (Ground surface) <u>82.0-ft 04Jun93</u> DIAGRAMMATIC DECOMMISSIONING PLAN (Depths from ground surface)		
[1] Pressure grout piezometer tubes to static water level, (P-tube, ~82~190-ft; Q-tube, ~82~155-ft). [2] Place sand plug from static to top of fill (~82~99.6-ft). [3] Cut piezometer tubes at static and remove. (~82-ft). [4] Perforate 8-in casing 3~82-ft, 4 cuts/rd/ft. [5] Place bentonite plug, approximately 80~82-ft. [6] Pressure grout 8-in casing 3~80-ft. [7] Cut casing @ 3-ft, place concrete or metal cap. Fill to grade and compact.		Elevation of reference point: <u>[487.68-ft]</u> (top of casing) Height of reference point above <u>[1.5-ft]</u> ground surface Depth of surface seal <u>[ND]</u> Type of surface seal: <u>None documented</u> I.D. of surface casing <u>[ND]</u> (if present) I.D. of riser pipe: <u>[8-in]</u> Type of riser pipe: <u>Carbon steel</u> Diameter of borehole: <u>[9-in nom]</u> Depth top of perforations: <u>[83-ft]</u> Description of perforations: <u>83~115-ft, 4 cuts/rd/ft</u> <u>115~125-ft, no perforations</u> <u>125~144-ft, 4 cuts/rd/ft</u> <u>145~175-ft, 6 cuts/rd/ft</u> Depth to bottom, 04Jun93 <u>99.6-ft</u> Fill Sand, 140~150-ft Q Piezometer, #60-slot screen 150~155-ft on 1.5-in tubing Gravel, 150~160-ft Cement plug, 160~170-ft Sand, 170~185-ft Depth bottom of perforations: <u>[175-ft]</u> Depth bottom of casing: <u>[180.0-ft]</u> Gravel pack, 185~190-ft P Piezometer, #60-slot screen 185~190-ft on 1.5-in tubing Depth bottom of borehole: <u>[190.0-ft]</u>
Drawing By: <u>RKL/6S12W29.PLN</u> Date : <u>16Aug93</u> Reference : <u>WAC 173-160</u>		

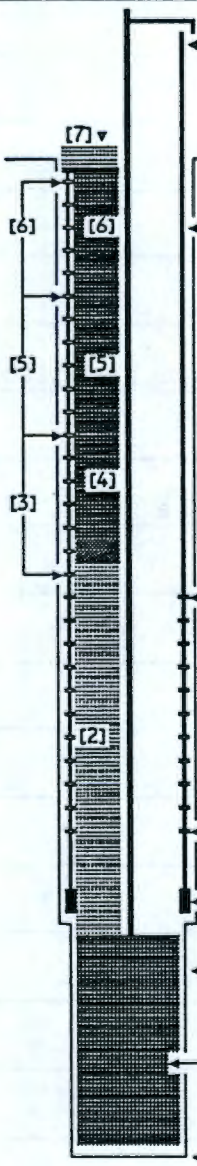
RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	1. Well No. <u>699-S12-29</u> Page 1 of 2				
<p>2. Has a need for use of the well been identified and documented? [<u>ND</u>] <u>Well identified for decommissioning as a part of ALE cleanup</u></p> <p>3. Is well presently in use? [<u>Yes</u>] <u>WHC and PNL water levels, PNL sampling</u></p> <p>4. Is casing sealed in accordance with IAW WAC 173-160-0757 [<u>No</u>] <u>No surface or annular seal</u></p> <p>4a. Natural barriers preserved? [<u>ND</u>] <u>No seals or plugs</u></p> <p>4b. Aquifer/strata penetrated permanently sealed? [<u>No</u>] <u>No annular seals</u></p> <p>4c. Annulus sealed against surface water? [<u>No</u>] <u>No surface seal</u></p> <p>4d. Casing overlap more than 8 ft; packed and grouted? [<u>N/A</u>] <u>Has two 1.5-in piezometers</u></p> <p>5. If not in use, is well capped IAW WAC 173-160-0857 [<u>N/A</u>] _____</p> <p>6. Is design and construction IAW WAC 173-160-5007 [<u>No</u>] <u>Does not meet water well construction standards</u></p> <p>6a. Saturated formation/aquifers not connected? [<u>ND</u>] <u>May interconnect semiconfined aquifers</u></p> <p>6b. Cuttings/development water handled IAW WAC 173-3037 [<u>N/A</u>] <u>Drilled before effective date of WAC 173-303</u></p> <p>6c. Well properly identified? [<u>ND</u>] <u>Not documented</u></p> <p>7. Is surface protection IAW WAC 173-160-5107 [<u>No</u>] <u>No surface protection</u></p> <p>7a. Well capped and protected? [<u>ND</u>] <u>Not documented, assumed capped and locked</u></p> <p>7b. Protective posts, surface pad or cover installed? [<u>No</u>] _____</p> <p>7c. Surface protection waived or variance obtained? [<u>N/A</u>] _____</p> <p>7d. Is existing surface protection damaged? [<u>N/A</u>] _____</p> <p>8. Are casing materials IAW 173-160-5207 [<u>ND</u>] <u>Casing is carbon steel</u></p> <p>9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-5307 [<u>ND</u>] <u>Not documented, assumed not</u></p> <p>9a. Drill rig/equipment casing/screen cleaned? [<u>ND</u>] <u>Not documented, assumed not</u></p> <p>9b. Filter pack cleaned? Material compatible? [<u>N/A</u>] <u>No filter pack</u></p> <tr><td colspan="2">RCRA/CERCLA MONITORING WELL?</td></tr> <tr><td colspan="2"><p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>ND</u>] <u>Not documented</u></p><p>10a. Screened interval documented? [<u>Yes</u>] <u>Piezometer screens documented</u></p><p>10b. Vertical lithology documented? [<u>Yes</u>] <u>Driller's log</u></p></td></tr>		RCRA/CERCLA MONITORING WELL?		<p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>ND</u>] <u>Not documented</u></p> <p>10a. Screened interval documented? [<u>Yes</u>] <u>Piezometer screens documented</u></p> <p>10b. Vertical lithology documented? [<u>Yes</u>] <u>Driller's log</u></p>	
RCRA/CERCLA MONITORING WELL?					
<p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>ND</u>] <u>Not documented</u></p> <p>10a. Screened interval documented? [<u>Yes</u>] <u>Piezometer screens documented</u></p> <p>10b. Vertical lithology documented? [<u>Yes</u>] <u>Driller's log</u></p>					

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST		1. Well No. 699-S12-29
		Page 2 of 2
11. Is design and construction IAW WAC 173-160-5407 [<u>No</u>] <u>Does not meet requirements</u>		
11a. Screen commercially fabricated of material nonreactive to subsurface conditions? [<u>ND</u>] <u>Piezometer screen material not documented</u>		
11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen. [<u>No</u>] <u>Gravel pack extends to top of screen</u>		
11c. Well has been developed. [<u>ND</u>] <u>Not documented</u>		
11d. Annulus grouted with bentonite or bentonite/cement mixture. [<u>No</u>] <u>No annular seal</u>		
12. Does water sample meet established acceptance criteria? Sample is less than 5 NTU and sand free. [<u>ND</u>]		
13. Data Sources Used:		
Logs:		
Driller's: <u>Wilcox/Smith, I Haden Drilling</u>	Date: <u>10/25/62</u>	Company: _____
Geologist: <u>N/A</u>	Date: _____	Company: _____
Geophysical: <u>N/A</u>	Date: _____	Company: _____
Television: <u>N/A</u>	Date: _____	Company: _____
Publications: Title, Author, Date		
<u>HANFORD WELLS, V. L. McGhan, June 1989</u>		
Databases:		
<u>WHC GWWS</u>		
Field Check: <u>WHC GWWS</u>	Date: <u>06/04/93</u>	Company: _____
Other: _____		

14. Comments: Identify evaluation criteria addressed by number:		
[15] <u>Well does not meet monitoring well criteria.</u>		

15. Status		
Well is acceptable for intended use	[<u>No</u>]	<u>No surface/annular seal</u>
Well is acceptable for intended use if variance is granted	[<u>No</u>]	<u>No surface/annular seal</u>
Rehabilitation required to continue intended use	[<u>Yes</u>]	<u>Has fill</u>
Remediation required to achieve intended use	[<u>Yes</u>]	<u>Remove piezometers</u>
Decommission, well is unneeded or cannot be remediated	[<u>Yes</u>]	<u>Required for ALE cleanup</u>
Other _____	[_____]	_____
16. Status Recommendation		
Done By: <u>R. K. Ledgerwood</u>	Title: <u>Principal Scientist</u>	Date: <u>10/29/93</u>

WELL CONSTRUCTION AND COMPLETION SUMMARY			
Drilling Method: Cable tool Drilling Fluid Used: Water Driller's Name: Jacobson/Stratton Drilling Company: I Haden Drilling Co Date Started: 22Oct62	Sample Drive barrel Method: Hard tool Additives Used: Not documented WA State Lic Nr: Not documented Company Location: Not documented Date Complete: 01Nov62	WELL NUMBER: 699-3-45 Hanford State Coordinates: N/S N 3.007 E/W W 45.007 Start Card #: Not documented T R S Elevation Ground surface: 502.8-ft Estimated TEMPORARY WELL NO: #18	
Depth to water: 107.0-ft 01Nov62 (Ground surface) 90.9-ft, 29Jul93 GENERALIZED STRATIGRAPHY Driller's Log		Elevation of reference point: [504.54-ft] (top of casing) Height of reference point above [1.7-ft] ground surface Depth of surface seal [ND] No surface seal documented 8-in ID carbon steel casing, +ND=132-ft Hole diameter, 9-in nominal 0=132-ft Depth to bottom, 94.1-ft, 29Jul93 8-in casing perforations, 100=128-ft, 6 cuts/ft/rd NOTE: HANFORD WELLS documents perforations, 90=100-ft Hole diameter, 8-in nominal 132=175-ft Cement plug, @ 134-ft Placement not documented Borehole drilled depth: [175.0-ft]	
0=5: Brown SILT 5=20: SILT and brown SAND 20=60: Light brown SAND 60=65: Fine brown SAND 65=80: Fine light brown SAND 80=100: Fine brown SAND 100=110: Fine brown sand w/basalt GRAVEL 110=115: SAND and 1/2-in brown GRAVEL 115=120: SAND and 1/2-in brown GRAVEL 120=131: 1/2-in GRAVEL down to fine brown SAND 131=145: Honeycomb BASALT 145=160: BASALT 160=168: Black and rust color BASALT (Hole falling in, cemented zone with a total of 1,410-lbs cement. Got cement 163=168-ft). 168=175: Rusty red ROCK			
Drawing By: RKL/6N03W45.ASB Date : 27Sep93 Reference : HANFORD WELLS			

DIAGRAMMATIC WELL DECOMMISSIONING PLAN			
Drilling Method: <u>Cable tool</u> Fluid Used: <u>Water</u> Driller's Name: <u>Jacobson/Stratton</u> Company: <u>I Haden Drilling Co</u> Date Started: <u>22Oct62</u>	Sample Drive barrel Method: <u>Hard tool</u> Additives Used: <u>Not documented</u> Lic Nr: <u>Not documented</u> Location: <u>Not documented</u> Date Complete: <u>01Nov62</u>	WELL NUMBER: <u>699-3-45</u> Hanford State Coordinates: N/S <u>N 3,007</u> E/W <u>W 45,007</u> Coordinates: N <u>408,193</u> E <u>2,250,310</u> Start Card #: <u>Not documented</u> T <u> </u> R <u> </u> S <u> </u> Elevation Ground surface: <u>502.5-ft Estimated</u>	
Depth to water: <u>107.0-ft 01Nov62</u> (Ground surface) <u>90.5-ft, 03Jun93</u>			
DIAGRAMMATIC DECOMMISSIONING PLAN (Depths from ground surface)			
[1] Clean out to cement plug @ 134-ft. Check perfs. w/TV. [2] Place sand fill, from 90-134-ft. [3] Perforate 60-90-ft. [4] Place sand, 87-90-ft, and bentonite 82-87-ft. Pressure grout 60-82-ft with neat cement. [5] Perforate 30-60-ft and pressure grout w/neat cement. [6] Perforate 3-30-ft and pressure grout w/neat cement. [7] Cut casing @ 3-ft, place metal or concrete cap. Fill to grade and compact.	 <div style="position: absolute; left: 550px; top: 240px;"> Elevation of reference point: [504.54-ft] (top of casing) Height of reference point above [2.0-ft] ground surface </div> <div style="position: absolute; left: 550px; top: 295px;"> Depth of surface seal [ND] No surface seal documented </div> <div style="position: absolute; left: 550px; top: 325px;"> 8-in ID carbon steel casing, +ND-132-ft </div> <div style="position: absolute; left: 550px; top: 370px;"> Hole diameter, 9-in nominal 0-132-ft </div> <div style="position: absolute; left: 550px; top: 500px;"> 8-in casing perforations, 100-128-ft, 6 cuts/ft/rd NOTE: HANFORD WELLS documents perforations, 90-100-ft </div> <div style="position: absolute; left: 550px; top: 645px;"> Depth bottom of casing: [132.0-ft] </div> <div style="position: absolute; left: 550px; top: 680px;"> Hole diameter, 8-in nominal 132-175-ft </div> <div style="position: absolute; left: 550px; top: 725px;"> Cement plug, @ 134-ft Placement not documented </div> <div style="position: absolute; left: 550px; top: 765px;"> Depth bottom of borehole: [175.0-ft] </div>		
Drawing By: <u>RKL/6N03W45.PLN</u> Date : <u>16Aug93</u> Reference : <u>HANFORD WELLS</u>			

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	1. Well No. 699-3-45 Page 1 of 2				
<p>2. Has a need for use of the well been identified and documented? (<u>ND</u>) <u>Well identified for decommissioning as a part of ALE cleanup</u></p> <p>3. Is well presently in use? (<u>Yes</u>) <u>PNL annual water level measurement</u></p> <p>4. Is casing sealed in accordance with IAW WAC 173-160-075? (<u>No</u>) <u>No surface or annular seal</u></p> <p>4a. Natural barriers preserved? (<u>N/A</u>) <u>Unconfined aquifer</u></p> <p>4b. Aquifer/strata penetrated permanently sealed? (<u>No</u>) <u>No annular seal</u></p> <p>4c. Annulus sealed against surface water? (<u>No</u>) <u>No surface seal or pad</u></p> <p>4d. Casing overlap more than 8 ft; packed and grouted? (<u>N/A</u>) <u>Single casing</u></p> <p>5. If not in use, is well capped IAW WAC 173-160-085? (<u>N/A</u>) _____</p> <p>6. Is design and construction IAW WAC 173-160-500? (<u>No</u>) <u>Does not meet water well construction standards</u></p> <p>6a. Saturated formation/aquifers not connected? (<u>N/A</u>) <u>Unconfined aquifer only</u></p> <p>6b. Cuttings/development water handled IAW WAC 173-303? (<u>N/A</u>) <u>Drilled before effective date of WAC 173-303</u></p> <p>6c. Well properly identified? (<u>ND</u>) <u>Not documented</u></p> <p>7. Is surface protection IAW WAC 173-160-510? (<u>No</u>) <u>No surface protection</u></p> <p>7a. Well capped and protected? (<u>ND</u>) <u>Not documented</u></p> <p>7b. Protective posts, surface pad or cover installed? (<u>No</u>) _____</p> <p>7c. Surface protection waived or variance obtained? (<u>No</u>) _____</p> <p>7d. Is existing surface protection damaged? (<u>ND</u>) <u>Not documented</u></p> <p>8. Are casing materials IAW 173-160-520? (<u>No</u>) <u>Casing is carbon steel</u></p> <p>9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530? (<u>ND</u>) <u>Not documented, assumed not</u></p> <p>9a. Drill rig/equipment casing/screen cleaned? (<u>ND</u>) _____</p> <p>9b. Filter pack cleaned? Material compatible? (<u>N/A</u>) <u>No filter pack</u></p> <tr><td colspan="2">RCRA/CERCLA MONITORING WELL?</td></tr> <tr><td colspan="2"><p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? (<u>ND</u>) <u>Not documented</u></p><p>10a. Screened interval documented? (<u>N/A</u>) <u>No screen</u></p><p>10b. Vertical lithology documented? (<u>Yes</u>) <u>Driller's log</u></p></td></tr>		RCRA/CERCLA MONITORING WELL?		<p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? (<u>ND</u>) <u>Not documented</u></p> <p>10a. Screened interval documented? (<u>N/A</u>) <u>No screen</u></p> <p>10b. Vertical lithology documented? (<u>Yes</u>) <u>Driller's log</u></p>	
RCRA/CERCLA MONITORING WELL?					
<p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? (<u>ND</u>) <u>Not documented</u></p> <p>10a. Screened interval documented? (<u>N/A</u>) <u>No screen</u></p> <p>10b. Vertical lithology documented? (<u>Yes</u>) <u>Driller's log</u></p>					

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST		1. Well No. 699-3-45
		Page 2 of 2
11. Is design and construction IAW WAC 173-160-540? (<u>No</u>) <u>No screen or filter pack</u>		
11a. Screen commercially fabricated of material nonreactive to subsurface conditions? (<u>N/A</u>)		
11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen. (<u>N/A</u>)		
11c. Well has been developed. (<u>ND</u>) <u>Not documented</u>		
11d. Annulus grouted with bentonite or bentonite/cement mixture. (<u>No</u>) <u>No annular seal</u>		
12. Does water sample meet established acceptance criteria? Sample is less than 5 NTU and sand free. (<u>ND</u>) <u>Not documented</u>		
13. Data Sources Used:		
Logs:		
Driller's: <u>Jacobson/Stratton, I Haden Co</u>	Date: <u>11/01/62</u>	Company: _____
Geologist: <u>N/A</u>	Date: _____	Company: _____
Geophysical: <u>N/A</u>	Date: _____	Company: _____
Television: <u>N/A</u>	Date: _____	Company: _____
Publications: Title, Author, Date		
<u>HANFORD WELLS, V. L. McGhan, June 1989</u>		
Databases:		
<u>WHC GWWS</u>		
Field Check: <u>N/A</u>	Date: _____	Company: _____
Other:		
14. Comments: Identify evaluation criteria addressed by number:		
<u>[15] Well does not meet monitoring well construction criteria.</u>		
15. Status		
Well is acceptable for intended use	(<u>No</u>)	<u>No surface/annular seal</u>
Well is acceptable for intended use if variance is granted	(<u>No</u>)	<u>No surface/annular seal</u>
Rehabilitation required to continue intended use	(<u>Yes</u>)	<u>Well contains fill</u>
Remediation required to achieve intended use	(<u>Yes</u>)	<u>Surface seal, screen</u>
Decommission, well is unneeded or cannot be remediated	(<u>Yes</u>)	<u>Required for ALE cleanup</u>
Other	(_____)	_____
16. Status Recommendation		
Done By: Name: <u>R. K. Ledgerwood</u>	Title: <u>Principal Scientist</u>	Date: <u>10/29/93</u>

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling	Sample	WELL	TEMPORARY
Method: <u>Cable tool</u>	Method: <u>Hard tool (nom)</u>	NUMBER: <u>699-10-99</u>	WELL NO: <u>Shedd #11</u>
Drilling	Additives	Hanford	
Fluid Used: <u>Not documented</u>	Used: <u>Not documented</u>	Coordinates: N/S <u>N 10,200</u>	E/W <u>W 98,550</u>
Driller's	WA State	State	
Name: <u>L. K. Armstrong?</u>	Lic Nr: <u>Not documented</u>	Coordinates: N <u>415,500</u>	E <u>2,196,500</u>
Drilling <u>Spokane-Benton</u>	Company	Start	
Company: <u>Natural Gas Co</u>	Location: <u>Not documented</u>	Card #: <u>Not documented</u>	T <u> </u> R <u> </u> S <u> </u>
Date	Date	Elevation	
Started: <u>Not documented</u>	Complete: <u>>Oct22</u>	Ground surface: <u>1,156-ft Estimated</u>	

Depth to water: Not documented
(Ground surface)

GENERALIZED Driller's
STRATIGRAPHY Log

0~18: BOULDER, volcanic ASH & GRAVEL
18~20: Fine SAND
20~30: GRAVEL
30~80: Porous BASALT
80~102: Yellow SAND with slight
mixture of CLAY
102~230: CLAY, SAND & BOULDERS
230~280: Porous BASALT
280~418: BASALT
418~465: CLAY
465~485: CLAY, SAND & BOULDERS
485~510: BASALT (very hard)
510~540: Grey BASALT
540~550: Blue SHALE
550~560: SAND & BOULDERS
560~580: SAND & broken BASALT
580~730: Hard grey BASALT
730~895: Hard BASALT
895~901: Sand ROCK
901~995: Hard BASALT
995~1,003: SLATE

Elevation of reference point: [1,160.01-ft]
(top of casing)
Height of reference point above [6.0-ft]
ground surface

Depth of surface seal [ND]
No surface seal documented:

10-in ID carbon steel casing,
+6~Not documented

10-in casing perforations,
130~150-ft, cuts not documented

Hole diameter,
+6~ND-ft, 11-in nominal
ND~1,003-ft, 10-in nominal

Borehole drilled depth: [1,003-ft]

Drawing By: RKL/6N10W99.ASB
Date : 22Oct93
Reference : HANFORD WELLS

DIAGRAMMATIC WELL DECOMMISSIONING PLAN			
Drilling Method: <u>Cable tool</u> Fluid Used: <u>Not documented</u> Driller's Name: <u>L. K. Armstrong?</u> Drilling: <u>Spokane-Benton</u> Company: <u>Natural Gas Co</u> Date Started: <u>Not documented</u>	Sample Method: <u>Hard tool (nom)</u> Additives Used: <u>Not documented</u> WA State Lic Nr: <u>Not documented</u> Company Location: <u>Not documented</u> Date Complete: <u>>Oct22</u>	WELL NUMBER: <u>699-10-99</u> Hanford Coordinates: N/S <u>N 10,200</u> E/W <u>W 98,550</u> State Coordinates: N <u>415,500</u> E <u>2,196,500</u> Start Card #: <u>Not documented</u> T <u> </u> R <u> </u> S <u> </u> Elevation Ground surface: <u>1,156-ft Estimated</u>	
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> Depth to water: <u>Not documented</u> (Ground surface) DIAGRAMMATIC DECOMMISSIONING PLAN (Depths from ground surface) </div> <div style="width: 65%;"> <div style="position: absolute; top: 240px; left: 560px; width: 300px;"> Elevation of reference point: <u>[1,160.01-ft]</u> (top of casing) Height of reference point above <u>[6.0-ft]</u> ground surface Depth of surface seal <u>[ND]</u> No surface seal documented: 10-in ID carbon steel casing, <u>+6-Not documented</u> 10-in casing perforations, <u>130-150-ft, cuts not documented</u> Hole diameter, <u>+6-ND-ft, 11-in nominal</u> <u>ND-1,003-ft, 10-in nominal</u> Borehole drilled depth: <u>[1,003-ft]</u> </div> </div> </div> <div style="margin-top: 10px;"> <div style="display: flex;"> <div style="width: 30%;"> <p>[1] Cleanout to total depth. Verify bottom of casing and perforations by TV.</p> <p>[2] Cement grout open hole from bottom of casing to to total depth in stages as determined in field.</p> <p>[3] Perforate casing 3-ft+bottom and pressure grout in stages as determined in field.</p> <p>[4] Cut casing at 3-ft, place cement or metal cap. Fill to grade and compact.</p> </div> </div> </div>			
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> Drawing By: <u>RKL/6N10W99.ASB</u> Date : <u>22Oct93</u> Reference : <u>HANFORD WELLS</u> </div> </div>			

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	1. Well No. 699-10-99 Page 1 of 2				
<p>2. Has a need for use of the well been identified and documented? [<u>No</u>] <u>Gas field is depleted</u></p> <p>3. Is well presently in use? [<u>No</u>] <u>Well has been abandoned</u></p> <p>4. Is casing sealed in accordance with IAW WAC 173-160-075? [<u>ND</u>] <u>No surface or annular seal documented</u></p> <p>4a. Natural barriers preserved? [<u>No</u>] <u>Well has been perforated, may allow cascading</u></p> <p>4b. Aquifer/strata penetrated permanently sealed? [<u>No</u>] <u>No record of surface or annular seal</u></p> <p>4c. Annulus sealed against surface water? [<u>No</u>] <u>No surface seal documented</u></p> <p>4d. Casing overlap more than 8 ft; packed and grouted? [<u>N/A</u>] _____</p> <p>5. If not in use, is well capped IAW WAC 173-160-085? [<u>No</u>] <u>Well is not capped</u></p> <p>6. Is design and construction IAW WAC 173-160-500? [<u>N/A</u>] <u>Well is gas exploration well, not resource protection well</u></p> <p>6a. Saturated formation/aquifers not connected? [<u>No</u>] <u>Interconnection probably exists</u></p> <p>6b. Cuttings/development water handled IAW WAC 173-303? [<u>N/A</u>] <u>Well drilled before applicable date of WAC 173-303</u></p> <p>6c. Well properly identified? [<u>No</u>] <u>No identification</u></p> <p>7. Is surface protection IAW WAC 173-160-510? [<u>N/A</u>] _____</p> <p>7a. Well capped and protected? [<u>N/A</u>] _____</p> <p>7b. Protective posts, surface pad or cover installed? [<u>N/A</u>] _____</p> <p>7c. Surface protection waived or variance obtained? [<u>N/A</u>] _____</p> <p>7d. Is existing surface protection damaged? [<u>N/A</u>] _____</p> <p>8. Are casing materials IAW 173-160-520? [<u>N/A</u>] _____</p> <p>9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530? [<u>N/A</u>] _____</p> <p>9a. Drill rig/equipment casing/screen cleaned? [<u>N/A</u>] _____</p> <p>9b. Filter pack cleaned? Material compatible? [<u>N/A</u>] _____</p> <tr><td colspan="2">RCRA/CERCLA MONITORING WELL?</td></tr> <tr><td colspan="2"><p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>N/A</u>] _____</p><p>10a. Screened interval documented? [<u>N/A</u>] _____</p><p>10b. Vertical lithology documented? [<u>Yes</u>] <u>Driller's log</u></p></td></tr>		RCRA/CERCLA MONITORING WELL?		<p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>N/A</u>] _____</p> <p>10a. Screened interval documented? [<u>N/A</u>] _____</p> <p>10b. Vertical lithology documented? [<u>Yes</u>] <u>Driller's log</u></p>	
RCRA/CERCLA MONITORING WELL?					
<p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>N/A</u>] _____</p> <p>10a. Screened interval documented? [<u>N/A</u>] _____</p> <p>10b. Vertical lithology documented? [<u>Yes</u>] <u>Driller's log</u></p>					

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	1. Well No. <u>699-10-99</u> Page 2 of 2
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11. Is design and construction IAW WAC 173-160-5407
 [N/A] _____

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
 [N/A] _____

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
 [N/A] _____

11c. Well has been developed.
 [N/A] _____

11d. Annulus grouted with bentonite or bentonite/cement mixture.
 [N/A] _____

12. Does water sample meet established acceptance criteria?
 Sample is less than 5 NTU and sand free.
 [N/A] _____


13. Data Sources Used:
 Logs:
 Driller's: Spokane-Benton Natural Gas Co Date: Oct1922 Company: _____
 Geologist: N/A Date: _____ Company: _____
 Geophysical: N/A Date: _____ Company: _____
 Television: N/A Date: _____ Company: _____
 Publications: Title, Author, Date
N/A

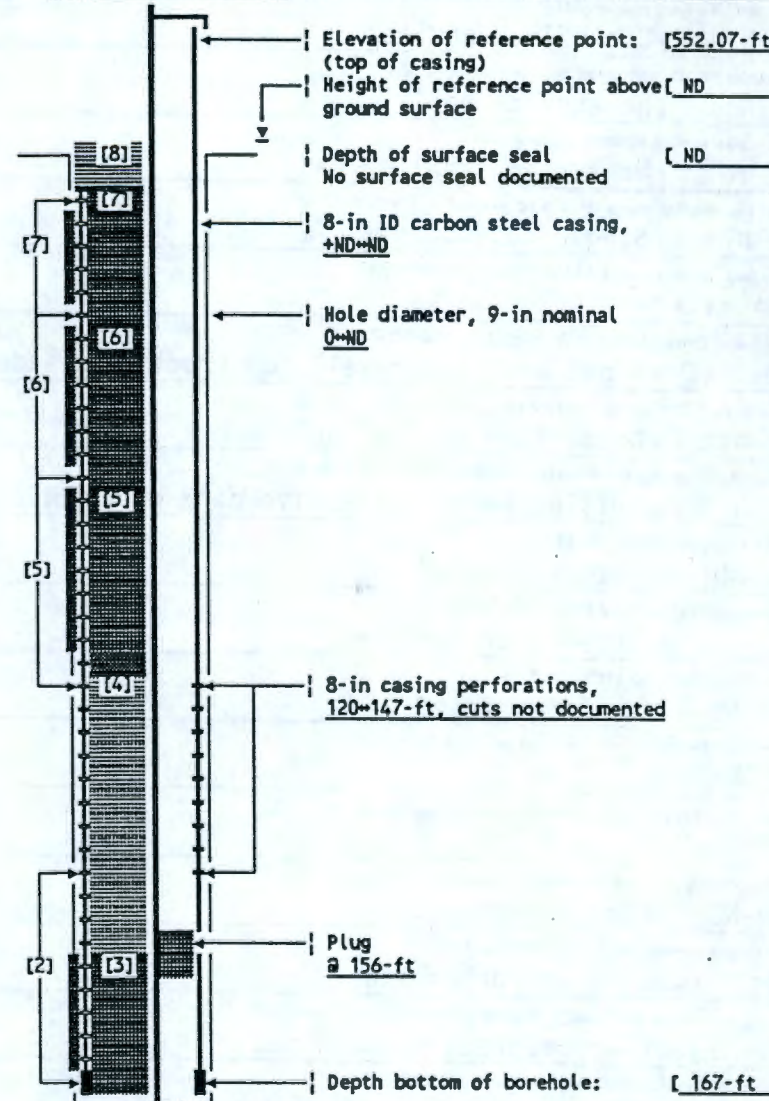
 Databases:
N/A
 Field Check: WHC GWWS Date: 07/29/93 Company: _____
 Other:

14. Comments: Identify evaluation criteria addressed by number:
[15] Well is presently unneeded and potentially interconnects
aquifers. Well should be decommissioned. Well may be candidate for
remediation as up-gradient background well.

15. Status
 Well is acceptable for intended use [No] Gas field is depleted
 Well is acceptable for intended use if variance is granted [No] Well may connect aquifers
 Rehabilitation required to continue intended use [No] No value as gas well
 Remediation required to achieve intended use [TBD] May be useful as background
 Decommission, well is unneeded or cannot be remediated [Yes] Well is unneeded
 Other [] _____

16. Status Recommendation
 Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/25/93

WELL CONSTRUCTION AND COMPLETION SUMMARY			
Drilling Method: <u>Cable tool</u> Drilling Fluid Used: <u>Water</u> Driller's Name: <u>Stanberry/Robinson</u> Drilling Company: <u>USGS</u> Date Started: <u>Not documented</u>	Sample Method: <u>Hard tool (nom)</u> Additives Used: <u>Not documented</u> WA State Lic Nr: <u>Not documented</u> Company Location: <u>Not documented</u> Date Complete: <u>Oct50</u>	WELL NUMBER: <u>699-13-64</u> Hanford Coordinates: N/S <u>N 12,596</u> State Coordinates: N <u>417,734</u> E <u>2,231,318</u> Start Card #: <u>Not documented</u> T <u> </u> R <u> </u> S <u> </u> Elevation Ground surface: <u>Not documented</u>	TEMPORARY WELL NO: <u>USGS No 4</u> <u>699-12.5-64.0</u> E/W <u>N 63,975</u> State Coordinates: N <u>417,734</u> E <u>2,231,318</u> Start Card #: <u>Not documented</u> T <u> </u> R <u> </u> S <u> </u> Elevation Ground surface: <u>Not documented</u>
Depth to water: <u>Not documented</u> (Ground surface) <u>120-ft, 08 Dec 76</u> GENERALIZED Driller's STRATIGRAPHY Log		 <p>Diagram labels:</p> <ul style="list-style-type: none"> Elevation of reference point: <u>[552.07-ft]</u> (top of casing) Height of reference point above <u>[ND]</u> ground surface Depth of surface seal <u>[ND]</u> No surface seal documented 8-in ID carbon steel casing, <u>+ND-ND</u> Hole diameter, 9-in nominal <u>0-ND</u> 8-in casing perforations, <u>120-147-ft, cuts not documented</u> Plug <u>@ 156-ft</u> Borehole drilled depth: <u>[167-ft]</u> 	
0-13: Silty med SAND 13-21: Sandy clayey SILT 21-45: SAND, GRAVEL & some SILT 45-52: Sandy GRAVEL 52-66: Silty SAND 66-104: Clayey SILT 104-109: Silty SAND 109-113: Sandy GRAVEL 113-121: Sandy SILT 121-133: Sandy GRAVEL 133-137: Well-sorted SAND 137-161: Gravelly SAND 161-168: BASALT			
Drawing By: <u>RKL/6N13W64.ASB</u> Date : <u>27Sep93</u> Reference : <u>HANFORD WELLS</u>			

DIAGRAMMATIC WELL DECOMMISSIONING PLAN			
Drilling Method: <u>Cable tool</u> Fluid Used: <u>Water</u> Driller's Name: <u>Stanberry/Robinson</u> Drilling Company: <u>USGS</u> Date Started: <u>Not documented</u>	Sample Method: <u>Hard tool (nom)</u> Additives Used: <u>Not documented</u> WA State Lic Nr: <u>Not documented</u> Company Location: <u>Not documented</u> Date Complete: <u>Oct50</u>	WELL NUMBER: <u>699-13-64</u> Hanford Coordinates: N/S <u>N 12,596</u> E/W <u>W 63,975</u> State Coordinates: N <u>417,734</u> E <u>2,231,318</u> Start Card #: <u>Not documented</u> T <u> </u> R <u> </u> S <u> </u> Elevation Ground surface: <u>Not documented</u>	TEMPORARY WELL NO: <u>USGS No 4</u> <u>699-12.5-64.0</u>
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Depth to water: <u>Not documented</u> (Ground surface) <u>120-ft, 08 Dec 76</u></p> <p>DIAGRAMMATIC DECOMMISSIONING PLAN (Depths from ground surface)</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>[1] Drill out plug. Clean fill to total depth.</p> <p>[2] Perforate 147-167-ft.</p> <p>[3] Set cement plug, 160-167-ft.</p> <p>[4] Place sand fill, 120-160-ft.</p> <p>[5] Perforate, 75-120-ft. Place bentonite crumbles, 115-120-ft. Pressure grout, 75-115-ft w/ neat cement.</p> <p>[6] Perforate, 35-75-ft. Pressure grout w/ neat cement.</p> <p>[7] Perforate, 3-35-ft. Pressure grout w/ neat cement.</p> <p>[8] Cut casing @ 3-ft, place concrete or metal cap, fill to grade and compact.</p> </div> </div> <div style="width: 50%;">  <p>Elevation of reference point: <u>[552.07-ft]</u> (top of casing) Height of reference point above ground surface: <u>[ND]</u></p> <p>Depth of surface seal: <u>[ND]</u> No surface seal documented</p> <p>8-in ID carbon steel casing, +ND-ND</p> <p>Hole diameter, 9-in nominal 0-ND</p> <p>8-in casing perforations, 120-147-ft, cuts not documented</p> <p>Plug @ 156-ft</p> <p>Depth bottom of borehole: <u>[167-ft]</u></p> </div> </div>			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Drawing By: <u>RKL/6N13W64.PLN</u> Date: <u>16 Aug 93</u> Reference: <u>HANFORD WELLS</u> <u>RHO-LD-158</u></p> </div> </div>			

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	1. Well No. 699-13-64 Page 1 of 2				
<p>2. Has a need for use of the well been identified and documented? [<u>ND</u>] <u>Well identified for decommissioning as a part of ALE cleanup</u></p> <p>3. Is well presently in use? [<u>Yes</u>] <u>PNL sitewide characterization</u></p> <p>4. Is casing sealed in accordance with IAW WAC 173-160-0757 [<u>No</u>] <u>No surface or annular seal</u></p> <p>4a. Natural barriers preserved? [<u>N/A</u>] <u>Unconfined aquifer</u></p> <p>4b. Aquifer/strata penetrated permanently sealed? [<u>No</u>] <u>No annular seal</u></p> <p>4c. Annulus sealed against surface water? [<u>No</u>] <u>No surface seal or pad</u></p> <p>4d. Casing overlap more than 8 ft; packed and grouted? [<u>N/A</u>] <u>Single casing</u></p> <p>5. If not in use, is well capped IAW WAC 173-160-0857 [<u>N/A</u>] _____</p> <p>6. Is design and construction IAW WAC 173-160-5007 [<u>No</u>] <u>Does not meet water well construction standards</u></p> <p>6a. Saturated formation/aquifers not connected? [<u>N/A</u>] <u>Unconfined aquifer only</u></p> <p>6b. Cuttings/development water handled IAW WAC 173-3037 [<u>N/A</u>] <u>Drilled before effective date of WAC 173-303</u></p> <p>6c. Well properly identified? [<u>ND</u>] <u>Not documented</u></p> <p>7. Is surface protection IAW WAC 173-160-5107 [<u>No</u>] <u>No surface protection</u></p> <p>7a. Well capped and protected? [<u>ND</u>] <u>Not documented</u></p> <p>7b. Protective posts, surface pad or cover installed? [<u>No</u>] _____</p> <p>7c. Surface protection waived or variance obtained? [<u>No</u>] _____</p> <p>7d. Is existing surface protection damaged? [<u>ND</u>] <u>Not documented</u></p> <p>8. Are casing materials IAW 173-160-5207 [<u>No</u>] <u>Casing is carbon steel</u></p> <p>9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-5307 [<u>ND</u>] <u>Not documented, assumed not</u></p> <p>9a. Drill rig/equipment casing/screen cleaned? [<u>ND</u>] <u>Not documented, assumed not</u></p> <p>9b. Filter pack cleaned? Material compatible? [<u>N/A</u>] <u>No filter pack</u></p> <tr><td colspan="2">RCRA/CERCLA MONITORING WELL?</td></tr> <tr><td colspan="2"><p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>ND</u>] _____</p><p>10a. Screened interval documented? [<u>N/A</u>] <u>No screen</u></p><p>10b. Vertical lithology documented? [<u>Yes</u>] <u>Driller's log</u></p></td></tr>		RCRA/CERCLA MONITORING WELL?		<p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>ND</u>] _____</p> <p>10a. Screened interval documented? [<u>N/A</u>] <u>No screen</u></p> <p>10b. Vertical lithology documented? [<u>Yes</u>] <u>Driller's log</u></p>	
RCRA/CERCLA MONITORING WELL?					
<p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>ND</u>] _____</p> <p>10a. Screened interval documented? [<u>N/A</u>] <u>No screen</u></p> <p>10b. Vertical lithology documented? [<u>Yes</u>] <u>Driller's log</u></p>					

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST		1. Well No. <div style="text-align: center; font-size: 1.2em;">699-13-64</div>
		Page 2 of 2
11. Is design and construction IAW WAC 173-160-5407 <div style="margin-left: 20px;"> <input type="checkbox"/> <u>0</u> </div>		
11a. Screen commercially fabricated of material nonreactive to subsurface conditions? <div style="margin-left: 20px;"> <input type="checkbox"/> <u>No screen or filter pack</u> </div>		
11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen. <div style="margin-left: 20px;"> <input type="checkbox"/> <u>N/A</u> <input type="checkbox"/> <u>No screen</u> </div>		
11c. Well has been developed. <div style="margin-left: 20px;"> <input type="checkbox"/> <u>N/A</u> <input type="checkbox"/> <u>No filter pack</u> </div>		
11d. Annulus grouted with bentonite or bentonite/cement mixture. <div style="margin-left: 20px;"> <input type="checkbox"/> <u>ND</u> <input type="checkbox"/> <u>Not documented</u> </div>		
12. Does water sample meet established acceptance criteria? <div style="margin-left: 20px;"> Sample is less than 5 NTU and sand free. <input type="checkbox"/> <u>No</u> <input type="checkbox"/> <u>No annular seal</u> </div>		
13. Data Sources Used: <div style="margin-left: 20px;"> Logs: <div style="display: flex; justify-content: space-between;"> <div>Driller's: <u>Stanberry/Robinson, USGS</u></div> <div>Date: <u>Oct1950</u></div> <div>Company: _____</div> </div> <div style="display: flex; justify-content: space-between;"> <div>Geologist: <u>N/A</u></div> <div>Date: _____</div> <div>Company: _____</div> </div> <div style="display: flex; justify-content: space-between;"> <div>Geophysical: <u>N/A</u></div> <div>Date: _____</div> <div>Company: _____</div> </div> <div style="display: flex; justify-content: space-between;"> <div>Television: <u>N/A</u></div> <div>Date: _____</div> <div>Company: _____</div> </div> </div>		
Publications: Title, Author, Date <u>HANFORD WELLS, V. L. McGhan, June 1989</u>		
Databases: <u>WHC GWWS</u>		
Field Check: <u>N/A</u> Date: _____ Company: _____		
Other: <div style="border-bottom: 1px solid black; height: 1.2em; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 1.2em; margin-bottom: 5px;"></div>		
14. Comments: Identify evaluation criteria addressed by number: <div style="margin-left: 20px;"> <u>[15] Well does not meet monitoring well construction criteria.</u> </div>		
15. Status <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> Well is acceptable for intended use Well is acceptable for intended use if variance is granted Rehabilitation required to continue intended use Remediation required to achieve intended use Decommission, well is unneeded or cannot be remediated Other _____ </div> <div style="width: 50%;"> <div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> <u>ND</u> <input type="checkbox"/> <u>Not documented</u> </div> <div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> <u>No</u> <input type="checkbox"/> <u>No surface/annular seal</u> </div> <div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> <u>No</u> <input type="checkbox"/> <u>No fill documented</u> </div> <div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> <u>Yes</u> <input type="checkbox"/> <u>Surface seal/perforate</u> </div> <div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> <u>Yes</u> <input type="checkbox"/> <u>Required for ALE cleanup</u> </div> </div> </div>		
16. Status Recommendation <div style="display: flex; justify-content: space-between;"> <div> Done By: _____ Name: <u>R. K. Ledgerwood</u> </div> <div> Title: <u>Principal Scientist</u> </div> <div> Date: <u>10/29/93</u> </div> </div>		

WELL CONSTRUCTION AND COMPLETION SUMMARY

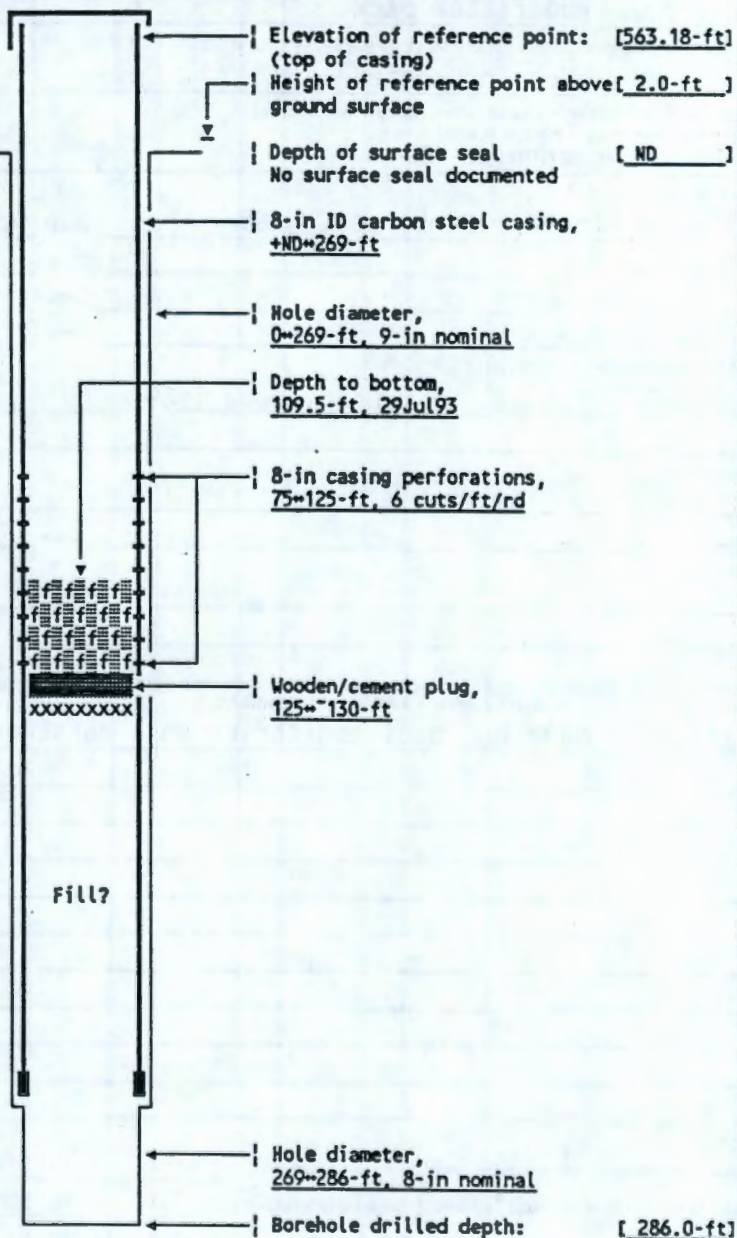
Drilling Method: <u>Cable tool</u>	Sample Method: <u>Hard tool (nom)</u>	WELL NUMBER: <u>699-17-70</u>	TEMPORARY WELL NO: <u>(7)</u>
Drilling Fluid Used: <u>Water</u>	Additives Used: <u>Not documented</u>	Hanford Coordinates: N/S <u>N 17,000</u> E/W <u>W 70,000</u>	State
Driller's Name: <u>W. Rodda</u>	WA State Lic Nr: <u>Not documented</u>	Coordinates: N <u>422,122</u> E <u>2,225,282</u>	Start
Drilling Company: <u>Bach Drilling Co</u>	Company Location: <u>Not documented</u>	Card #: <u>Not documented</u>	T <u> </u> R <u> </u> S <u> </u>
Date Started: <u>14Oct58</u>	Date Complete: <u>30Oct58</u>	Elevation Ground surface: <u>561.2-ft Estimated</u>	

Depth to water: 94.0-ft 30Oct58
(Ground surface) 88.0-ft 03Jun93

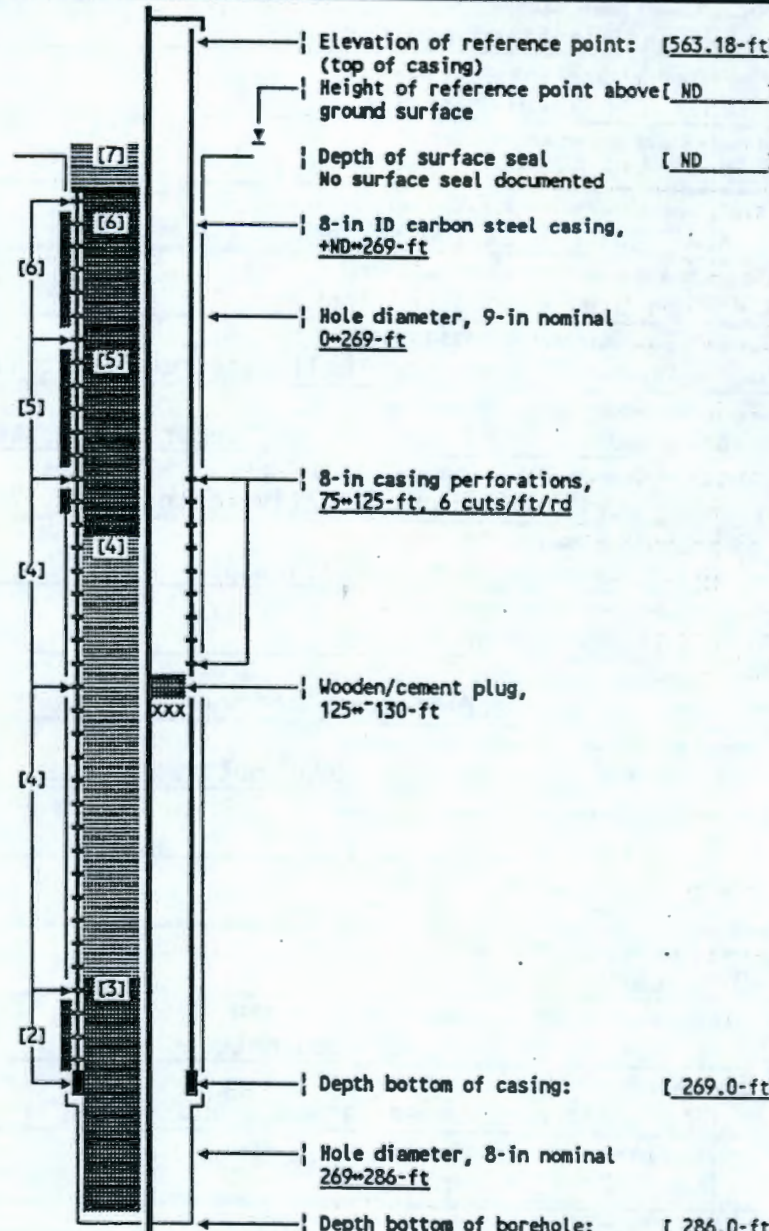
GENERALIZED Driller's
STRATIGRAPHY Log

0~38: SILT
38~40: SILT & coarse SAND
40~48: SILT & GRAVEL
48~50: SAND & GRAVEL
50~55: SAND & coarse GRAVEL
55~58: SAND, GRAVEL & BOULDERS
58~70: SAND & coarse GRAVEL
70~105: SAND & GRAVEL
105~115: SAND
115~125: SAND, GRAVEL & CLAY
125~135: Brown CLAY
135~142: Blue SHALE
142~155: SAND & GRAVEL
155~160: SAND, GRAVEL, CLAY
160~195: CALICHE & SAND
195~205: SILT & SAND
205~215: SILT-SAND-fine GRAVEL
215~225: Blue SHALE
225~235: Blue SHALE, SAND & GRAVEL
235~250: SAND & GRAVEL
250~269: Grey CLAY
269~286: BASALT

REMEDICATION,
Jul78 by M Bultena
Set wooden and cement plug
125-ft to not documented,
(~130-ft nominal).



Drawing By: RKL/6N17W70.ASB
Date : 27Sep93
Reference : HANFORD WELLS

DIAGRAMMATIC WELL DECOMMISSIONING PLAN			
Drilling Method: <u>Cable tool</u> Fluid Used: <u>Water</u> Driller's Name: <u>W. Rodda</u> Company: <u>Bach Drilling Co</u> Date Started: <u>14Oct58</u>	Sample Method: <u>Hard tool (nom)</u> Additives Used: <u>Not documented</u> WA State Lic Nr: <u>Not documented</u> Company Location: <u>Not documented</u> Date Complete: <u>30Oct58</u>	WELL NUMBER: <u>699-17-70</u> Hanford Coordinates: N/S <u>N 17,000</u> E/W <u>W 70,000</u> State Coordinates: N <u>422,122</u> E <u>2,225,282</u> Start Card #: <u>Not documented</u> T <u> </u> R <u> </u> S <u> </u> Elevation Ground surface: <u>Not documented</u>	
Depth to water: <u>94.0-ft 30Oct58</u> (Ground surface) <u>87-ft, 03Jun93</u>			
DIAGRAMMATIC DECOMMISSIONING PLAN (Depths from ground surface)			
[1] Drill out plug. Clean fill to total depth. [2] Perforate 250-269-ft. [3] Set cement plug, 250-286-ft w/tremmie pipe. [4] Perforate 125-250-ft. Place sand fill 85-250-ft, and bentonite crumble plug 80-85-ft. [5] Perforate 45-75-ft and pressure grout 45-80-ft w/neat cement. [6] Perforate 3-45-ft and pressure grout w/neat cement. [7] Cut casing @ 3-ft, place concrete or metal cap, fill to grade and compact.	 <div style="position: absolute; top: 240px; right: 50px; width: 300px;"> Elevation of reference point: <u>(563.18-ft)</u> (top of casing) Height of reference point above <u>[ND]</u> ground surface Depth of surface seal <u>[ND]</u> No surface seal documented 8-in ID carbon steel casing, <u>+ND-269-ft</u> Hole diameter, 9-in nominal <u>0-269-ft</u> 8-in casing perforations, <u>75-125-ft, 6 cuts/ft/rd</u> Wooden/cement plug, <u>125-130-ft</u> Depth bottom of casing: <u>[269.0-ft]</u> Hole diameter, 8-in nominal <u>269-286-ft</u> Depth bottom of borehole: <u>[286.0-ft]</u> </div>		
Drawing By: <u>RKL/6N17W70.PLN</u> Date: <u>16Aug93</u> Reference: <u>HANFORD WELLS</u>			

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	1. Well No. <u>699-17-70</u> Page 1 of 2
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2. Has a need for use of the well been identified and documented?
☐ ND Well identified for decommissioning as a part of ALE cleanup
3. Is well presently in use?
☐ Yes WHC and PNL water levels, PNL sampling
4. Is casing sealed in accordance with IAW WAC 173-160-0757?
☐ No No surface or annular seal
 - 4a. Natural barriers preserved?
☐ N/A Unconfined aquifer
 - 4b. Aquifer/strata penetrated permanently sealed?
☐ No No annular seals
 - 4c. Annulus sealed against surface water?
☐ No No surface seal or pad
 - 4d. Casing overlap more than 8 ft; packed and grouted?
☐ N/A Single casing string
5. If not in use, is well capped IAW WAC 173-160-0857?
☐ N/A In use, capped and locked
6. Is design and construction IAW WAC 173-160-5007?
☐ No Does not meet water well construction standards
 - 6a. Saturated formation/aquifers not connected?
☐ N/A Unconfined aquifer, may interconnect semiconfined
 - 6b. Cuttings/development water handled IAW WAC 173-3037?
☐ N/A Drilled before effective date of WAC 173-303
 - 6c. Well properly identified?
☐ No No permanent identification
7. Is surface protection IAW WAC 173-160-5107?
☐ No No surface protection
 - 7a. Well capped and protected?
☐ Yes Capped and locked
 - 7b. Protective posts, surface pad or cover installed?
☐ No No post or pad, cover not applicable
 - 7c. Surface protection waived or variance obtained?
☐ N/A
 - 7d. Is existing surface protection damaged?
☐ N/A No surface protection
8. Are casing materials IAW 173-160-5207?
☐ ND Carbon steel casing
9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-5307?
☐ ND Not documented, assumed not
 - 9a. Drill rig/equipment casing/screen cleaned?
☐ ND Not documented, assumed not
 - 9b. Filter pack cleaned? Material compatible?
☐ N/A No filter pack

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
☐ ND
 - 10a. Screened interval documented?
☐ N/A No screen
 - 10b. Vertical lithology documented?
☐ Yes Driller's log

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST		1. Well No. <u>699-17-70</u>
		Page 2 of 2

11. Is design and construction IAW WAC 173-160-5407
☐ No ☒ Does not meet requirements

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
☐ N/A ☒ No screen

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
☐ N/A ☒ No filter pack

11c. Well has been developed.
☐ ND ☒ Not documented

11d. Annulus grouted with bentonite or bentonite/cement mixture.
☐ No ☒ No annular seal

12. Does water sample meet established acceptance criteria?
 Sample is less than 5 NTU and sand free.
☐ ND ☒ Not documented

13. Data Sources Used:

Logs:

Driller's: Rodda/ Bach Drilling Co Date: 10/30/58 Company: _____

Geologist: N/A Date: _____ Company: _____

Geophysical: N/A Date: _____ Company: _____

Television: N/A Date: _____ Company: _____

Publications: Title, Author, Date
HANFORD WELLS, V. L. McGhan, June 1989

Databases:
WHC GWWS

Field Check: WHC GWWS Date: 07/29/93 Company: _____

Other:
N/A

14. Comments: Identify evaluation criteria addressed by number:
[15] Well does not meet monitoring well construction criteria.

15. Status

Well is acceptable for intended use ☐ No ☒ No surface/annular seal

Well is acceptable for intended use if variance is granted ☐ No ☒ No surface annular/seal

Rehabilitation required to continue intended use ☐ No ☒ No fill documented

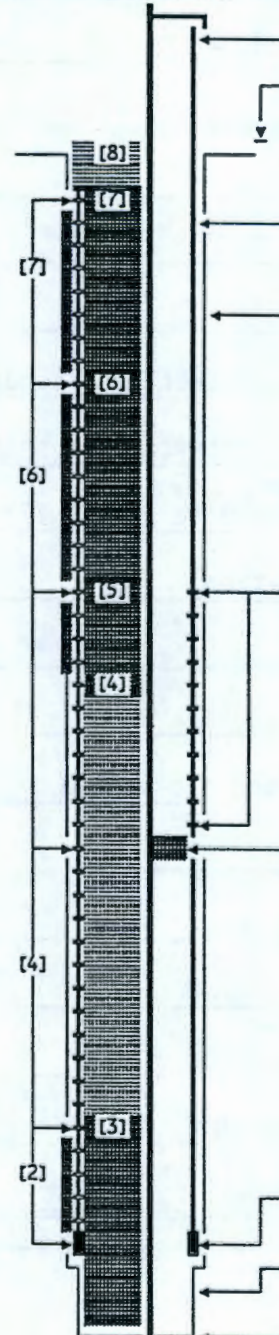
Remediation required to achieve intended use ☐ Yes ☒ Surface seal

Decommission, well is unneeded or cannot be remediated ☐ Yes ☒ Required for ALE cleanup

Other ☐ _____

16. Status Recommendation
 Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/29/93

WELL CONSTRUCTION AND COMPLETION SUMMARY			
Drilling Method: <u>Cable tool</u> Fluid Used: <u>Water</u> Driller's Name: <u>Swain</u> Company: <u>Not documented</u> Date Started: <u>07Oct57</u>	Sample Method: <u>Hard tool (nom)</u> Additives Used: <u>Cable pieces</u> WA State Lic Nr: <u>Not documented</u> Company Location: <u>Not documented</u> Date Complete: <u>04Nov57</u>	WELL NUMBER: <u>699-19-88</u> Hanford Coordinates: N/S <u>N 19,185</u> E/W <u>W 87,736</u> State Coordinates: N <u>424,262</u> E <u>2,207,540</u> Start Card #: <u>Not documented</u> T <u> </u> R <u> </u> S <u> </u> Elevation Ground surface: <u>Not documented</u>	TEMPORARY WELL NO: <u>699-20-87</u>
Depth to water: <u>128.0-ft 04Nov57</u> (Ground surface) <u>128.9-ft 03Jun93</u>			
GENERALIZED STRATIGRAPHY Driller's Log		<div style="display: flex; align-items: center;"> <div style="flex: 1;"> </div> <div style="flex: 2;"> <p>Elevation of reference point: <u>[644.45-ft]</u> (top of casing)</p> <p>Height of reference point above <u>[ND]</u> ground surface</p> <p>Depth of surface seal <u>[ND]</u> No surface seal documented</p> <p>8-in ID carbon steel casing, <u>+ND+360-ft</u></p> <p>Hole diameter, <u>0+360-ft, 9-in nominal</u></p> <p>Depth to bottom, <u>170.2-ft, 29Jul93</u></p> <p>8-in casing perforations, <u>70+130-ft, 2 cuts/ft/rd</u> <u>130+170-ft, 1 cut/ft/rd</u></p> <p>HANFORD WELLS documents plug <u>@ 170-ft</u> Placement not otherwise documented</p> <p>Hole diameter, <u>360+388-ft, 8-in nominal</u></p> <p>Borehole drilled depth: <u>[388-ft]</u></p> </div> </div>	
0+20: SILT 20+32: GRAVEL 32+34: SILT 34+50: GRAVEL 50+57: Black basalt GRAVEL 57+62: SILT 62+70: Basalt GRAVEL 70+75: Mixed GRAVEL, mostly basalt 75+80: GRAVEL 80+88: Small cobble GRAVEL 88+100: GRAVEL 100+120: Cemented GRAVEL 120+135: Cemented SAND & small GRAVEL 135+140: SAND, SILT & small GRAVEL 140+145: SAND, SILT, GRAVEL 145+160: Coarse SAND & SILT 160+205: SAND, SILT, & GRAVEL 205+210: SAND & SILT 210+275: SAND, SILT, some GRAVEL 275+305: SAND, SILT & GRAVEL 305+340: Cemented SAND & GRAVEL 340+345: Sandy SILT or CLAY 345+351: CLAY-GRAVEL 351+360: Blue-gray CLAY, basalt GRAVEL (Adding pieces of cable to drill on) 360+365: BASALT-soft 365+373: BASALT-hard 373+376: BASALT-soft 376+388: BASALT-hard		<div style="display: flex; align-items: center;"> <div style="flex: 1; text-align: center;"> <p>Fill?</p> </div> <div style="flex: 1; border-left: 1px solid black; height: 100px; margin-left: 10px;"></div> </div>	
Drawing By: <u>RKL/6N19W88.ASB</u> Date : <u>27Sep93</u> Reference : <u>HANFORD WELLS</u>			

DIAGRAMMATIC WELL DECOMMISSIONING PLAN			
Drilling Method: <u>Cable tool</u> Fluid Used: <u>Water</u> Driller's Name: <u>Swain</u> Company: <u>Not documented</u> Date Started: <u>07Oct57</u>	Sample Method: <u>Hard tool (nom)</u> Additives Used: <u>Cable pieces</u> WA State Lic Nr: <u>Not documented</u> Company Location: <u>Not documented</u> Date Complete: <u>04Nov57</u>	WELL NUMBER: <u>699-19-88</u> Hanford Coordinates: N/S <u>W 19,185</u> E/W <u>W 87,736</u> State Coordinates: N <u>424,262</u> E <u>2,207,540</u> Start Card #: <u>Not documented</u> T <u> </u> R <u> </u> S <u> </u> Elevation Ground surface: <u>Not documented</u>	
Depth to water: <u>128.0-ft 04Nov57</u> (Ground surface) <u>129-ft, 03Jun93</u>			
DIAGRAMMATIC DECOMMISSIONING PLAN (Depths from ground surface)			
[1] Drill out plug. Clean fill to total depth. [2] Perforate 340~360-ft. [3] Set cement plug, 340~388-ft w/tremmie pipe. [4] Perforate 170~340-ft. Place sand fill, 125~340-ft, and bentonite crumble plug, 120~125-ft. [5] Pressure grout 70~120-ft w/neat cement. [6] Perforate 40~70-ft and pressure grout w/neat cement. [7] Perforate 3~40-ft and pressure grout w/neat cement. [8] Cut casing @ 3-ft, place concrete or metal cap, fill to grade and compact.	 <div style="position: absolute; top: 240px; right: 50px; width: 300px;"> Elevation of reference point: <u>[644.45-ft]</u> (top of casing) Height of reference point above <u>[ND]</u> ground surface Depth of surface seal <u>[ND]</u> No surface seal documented 8-in ID carbon steel casing, <u>+ND~360-ft</u> Hole diameter, 9-in nominal <u>0~360-ft</u> 8-in casing perforations, <u>70~130-ft, 2 cuts/ft/rd</u> <u>130~170-ft, 1 cut/ft/rd</u> HANFORD WELLS documents plug @ 170-ft Placement not otherwise documented Casing to <u>360-ft</u> Hole diameter, 8-in nominal <u>360~388-ft</u> Depth bottom of borehole: <u>[388-ft]</u> </div>		
Drawing By: <u>RKL/6N19W88.PLN</u> Date : <u>16Aug93</u> Reference : <u>HANFORD WELLS</u>			

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	1. Well No. <u>699-19-88</u> Page 1 of 2
<p>2. Has a need for use of the well been identified and documented? [<u>ND</u>] <u>Well identified for decommissioning as a part of ALE cleanup</u></p> <p>3. Is well presently in use? [<u>Yes</u>] <u>WHC and PNL water levels, PNL sampling</u></p> <p>4. Is casing sealed in accordance with IAW WAC 173-160-0757 [<u>No</u>] <u>No surface or annular seal</u></p> <p>4a. Natural barriers preserved? [<u>No</u>] <u>No annular seal, has plug @ 170-ft</u></p> <p>4b. Aquifer/strata penetrated permanently sealed? [<u>No</u>] <u>No annular seal</u></p> <p>4c. Annulus sealed against surface water? [<u>No</u>] <u>No surface seal</u></p> <p>4d. Casing overlap more than 8 ft; packed and grouted? [<u>N/A</u>] <u>Single casing string</u></p> <p>5. If not in use, is well capped IAW WAC 173-160-0857 [<u>N/A</u>] _____</p> <p>6. Is design and construction IAW WAC 173-160-5007 [<u>No</u>] <u>Does not meet water well construction standards</u></p> <p>6a. Saturated formation/aquifers not connected? [<u>N/A</u>] <u>Unconfined aquifer, may interconnect semiconfined</u></p> <p>6b. Cuttings/development water handled IAW WAC 173-3037 [<u>N/A</u>] <u>Drilled before effective date of WAC 173-303</u></p> <p>6c. Well properly identified? [<u>No</u>] <u>No permanent identification</u></p> <p>7. Is surface protection IAW WAC 173-160-5107 [<u>No</u>] <u>No surface protection</u></p> <p>7a. Well capped and protected? [<u>Yes</u>] <u>Capped and locked</u></p> <p>7b. Protective posts, surface pad or cover installed? [<u>No</u>] <u>No post or pad, cover not applicable</u></p> <p>7c. Surface protection waived or variance obtained? [<u>No</u>] _____</p> <p>7d. Is existing surface protection damaged? [<u>N/a</u>] <u>No surface protection</u></p> <p>8. Are casing materials IAW 173-160-5207 [<u>ND</u>] <u>Carbon steel casing</u></p> <p>9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-5307 [<u>ND</u>] <u>Not documented, assumed not</u></p> <p>9a. Drill rig/equipment casing/screen cleaned? [<u>ND</u>] <u>Not documented, assumed not</u></p> <p>9b. Filter pack cleaned? Material compatible? [<u>N/A</u>] <u>No filter pack</u></p>	
<p>RCRA/CERCLA MONITORING WELL?</p> <p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>ND</u>] _____</p> <p>10a. Screened interval documented? [<u>N/A</u>] <u>No screen</u></p> <p>10b. Vertical lithology documented? [<u>Yes</u>] <u>Driller's log</u></p>	

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST		1. Well No. 699-19-88
		Page 2 of 2
11. Is design and construction IAW WAC 173-160-5407 <input type="checkbox"/> No <input checked="" type="checkbox"/> Does not meet requirements		
11a. Screen commercially fabricated of material nonreactive to subsurface conditions? <input type="checkbox"/> N/A <input checked="" type="checkbox"/> No screen		
11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen. <input type="checkbox"/> N/a <input checked="" type="checkbox"/> No filter pack		
11c. Well has been developed. <input type="checkbox"/> ND <input checked="" type="checkbox"/> Not documented		
11d. Annulus grouted with bentonite or bentonite/cement mixture. <input type="checkbox"/> N/A <input checked="" type="checkbox"/> No annular seal		
12. Does water sample meet established acceptance criteria? Sample is less than 5 NTU and sand free. <input type="checkbox"/> ND <input checked="" type="checkbox"/>		
13. Data Sources Used:		
Logs:		
Driller's: Swain/ Co not documented	Date: 11/04/57	Company: _____
Geologist: N/A	Date: _____	Company: _____
Geophysical: N/A	Date: _____	Company: _____
Television: N/A	Date: _____	Company: _____
Publications: Title, Author, Date		
HANFORD WELLS, V. L. McGhan, June 1989		
Databases:		
WHC GWWS		
Field Check: WHC GWWS	Date: 07/29/93	Company: _____
Other:		
14. Comments: Identify evaluation criteria addressed by number:		
[15] Well does not meet monitoring well construction criteria.		
15. Status		
Well is acceptable for intended use	<input type="checkbox"/> No <input checked="" type="checkbox"/> No surface/annular seal	
Well is acceptable for intended use if variance is granted	<input type="checkbox"/> No <input checked="" type="checkbox"/> No surface/annular seal	
Rehabilitation required to continue intended use	<input type="checkbox"/> No <input checked="" type="checkbox"/> No fill documented	
Remediation required to achieve intended use	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Surface seal	
Decommission, well is unneeded or cannot be remediated	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Required for ALE cleanup	
Other	<input type="checkbox"/> _____	
16. Status Recommendation		
Done By: Name: R. K. Ledgerwood	Title: Principal Scientist	Date: 10/29/93

WELL CONSTRUCTION AND COMPLETION SUMMARY			
Drilling Method: <u>Cable tool</u> Fluid Used: <u>Not documented</u> Driller's Name: <u>G. E. Scott</u> Company: <u>Not documented</u> Date Started: <u>Not documented</u>	Sample Method: <u>Hard tool</u> Additives Used: <u>Not documented</u> WA State Lic Nr: <u>Not documented</u> Company Location: <u>Not documented</u> Date Complete: <u>01Mar29</u>	WELL NUMBER: <u>699-20-82</u> Hanford Coordinates: N/S <u>N 19,849</u> E/W <u>W 82,342</u> State Coordinates: N <u>424,939.10</u> E <u>2,212,931.43</u> Start Card #: <u>Not documented</u> T <u>12N</u> R <u>25E</u> S <u>26M1</u> Elevation Ground surface: <u>613.8-ft Estimated</u>	TEMPORARY Benson WELL NO: <u>Ranch</u>
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> Depth to water: <u>127-ft Late28</u> (Ground surface) <u>110-ft 01Dec78</u> GENERALIZED Driller's STRATIGRAPHY Log </div> <div style="width: 65%;"> <div style="position: absolute; top: 250px; right: 50px; width: 80%;"> Elevation of reference point: <u>[614.34-ft]</u> (top of casing) Height of reference point above <u>[0.5-ft]</u> ground surface Depth of surface seal <u>[ND]</u> No surface seal documented: Has 4-ft x 4-ft concrete pad 12-in casing perforated, <u>100-119-ft</u> (Downhole flow can be heard) 12½-in 50# API casing, <u>0.5-345-ft (13-in nominal hole diameter)</u> Plugged <u>@ 455-ft</u> 10in 45# API casing and 12½-in under-reamed hole <u>345-924-ft</u> NOTE: Casings are shown as telescoped with no shoes or packers. Not documented. 8-in ID casing and 10-in nominal hole, <u>924-1,314-ft</u> 8-in nominal open hole, <u>1,314-2,000-ft</u> Borehole drilled depth: <u>[2,000-ft]</u> </div> </div> </div>			
<div style="display: flex;"> <div style="width: 30%; font-family: monospace; font-size: 0.9em;"> 0-6: CLAY 6-30: Dry loose SAND 30-47: Dirty SAND 47-58: Fine SAND 58-68: Coarse GRAVEL 68-74: Cement GRAVEL 74-79: Coarse loose GRAVEL 79-80: Dirty GRAVEL 80-85: Fine pea GRAVEL 85-150: Dirty GRAVEL 150-304: Dirty GRAVEL w/SAND 304-345: Blue CLAY 345-448: Black & gray BASALT 448-471: White sticky CLAY 471-537: Blue CLAY, SAND & part sticky 537-855: Black & gray BASALT 855-886: Blue SHALE & CLAY 886-893: SANDSTONE 893-924: Blue sand SHALE 924-934: Not documented 934-1,085: Black BASALT 1,085-1,172: Gray BASALT 1,172-1,201: Changeable BASALT, black, gray & reddish 1,201-1,203: Yellow CLAY 1,203-1,249: Blue SHALE and trace of white SAND 1,249-1,280: Blue SHALE 1,280-1,281: Brown SHALE 1,281-1,296: Blue SHALE 1,296-1,310: Greenish SHALE (sticky) 1,310-1,438: Black BASALT 1,438-1,450: Rock resembles fine SANDSTONE 1,450-2,000: Gray & black BASALT </div> <div style="width: 70%;"></div> </div>			
Drawing By: <u>RKL/6N20W82B.ASB</u> Date: <u>27Sep93</u> Reference: <u>HANFORD WELLS</u>			

DIAGRAMMATIC WELL DECOMMISSIONING PLAN		
Drilling Method: <u>Cable tool</u> Fluid Used: <u>Not documented</u> Driller's Name: <u>G. E. Scott</u> Company: <u>Not documented</u> Date Started: <u>Not documented</u>	Sample Method: <u>Hard tool</u> Additives Used: <u>Not documented</u> WA State Lic Nr: <u>Not documented</u> Company Location: <u>Not documented</u> Date Complete: <u>01Mar29</u>	WELL NUMBER: <u>699-20-82</u> TEMPORARY Benson Hanford WELL NO: <u>Ranch</u> Coordinates: N/S <u>N 19,849</u> E/W <u>W 82,342</u> State Coordinates: N <u>424,939.10</u> E <u>2,212,931.43</u> Start Card #: <u>Not documented</u> T <u>12N</u> R <u>25E</u> S <u>26M1</u> Elevation Ground surface (ft): <u>Not documented</u>
Depth to water: <u>127-ft Late28</u> (Ground surface) <u>110-ft 01Dec78</u>		
DIAGRAMMATIC DECOMMISSIONING PLAN (Depths from ground surface)		
[1] Drill out plug @ ~455-ft. Clean to total depth. Run TV. [2] Grout open hole, 1,314~2,000-ft w/neat cement using tremmie. Grout in lifts of <200-ft. [3] Pull 8-in casing if possible. If not, perforate 925~1,310-ft and place sand fill 1,200~1,314-ft, bentonite plug 1,190~1,200-ft. [4] Grout 925~1,200-ft w/neat cement using tremmie. [5] Perforate 10-in casing, 540~920-ft. Place sand fill 850~920-ft; bentonite plug, 840~850-ft and pressure grout 540~840-ft w/neat cement. [6] Perforate 10-in casing, 350~540-ft. Place sand fill, 445~540-ft; bentonite plug, 440~445-ft and pressure grout 350~440 w/neat cement. [7] Perforate 12.5-in casing, 100~345-ft. Place cement plug, 340~350-ft; bentonite plug, 330~340-ft and sand fill, 100~330-ft. [8] Perforate 12.5-in casing, 3~100-ft. Place bentonite plug, 90~100-ft. Grout 3~90-ft w/cement grout. [9] Remove concrete pad, cut casing @ 3-ft, place concrete or metal cap, fill to grade and compact.		Elevation of reference point: [614.34-ft] (top of casing) Height of reference point above [ND] ground surface Depth of surface seal [ND] Type of surface seal: None documented Perforated, 100-119-ft (Downhole flow can be heard) 12½-in 50# API casing to 345-ft 13-in nominal hole to 345-ft Plugged @ ~455-ft 10-in 45# API casing to 924-ft 12½-in under-reamed hole to 924-ft NOTE: Casings are shown as telescoped with no shoes or packers. Not documented. 8-in casing to 1,314-ft 10-in nominal hole to 1,314-ft 8-in nominal open hole, 1,314~2,000-ft Depth bottom of borehole: [2,000-ft]
Drawing By: <u>RKL/6N20W82B.PLN</u> Date: <u>16Aug93</u> Reference: <u>HANFORD WELLS</u>		

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	1. Well No. 699-20-82 Page 1 of 2				
<p>2. Has a need for use of the well been identified and documented? [<u>ND</u>] Well identified for decommissioning as a part of ALE cleanup</p> <p>3. Is well presently in use? [<u>Yes</u>] PNL sitewide water level monitoring</p> <p>4. Is casing sealed in accordance with IAW WAC 173-160-075? [<u>No</u>] No surface or annular seal</p> <p>4a. Natural barriers preserved? [<u>No</u>] Telescoping unsealed casing connects aquifers</p> <p>4b. Aquifer/strata penetrated permanently sealed? [<u>No</u>] See 4 above</p> <p>4c. Annulus sealed against surface water? [<u>No</u>] Has pad, no surface seal</p> <p>4d. Casing overlap more than 8 ft; packed and grouted? [<u>No</u>] Casing does not overlap, is not grouted</p> <p>5. If not in use, is well capped IAW WAC 173-160-085? [<u>N/A</u>] Well is capped</p> <p>6. Is design and construction IAW WAC 173-160-500? [<u>No</u>] Well has downhole flow</p> <p>6a. Saturated formation/aquifers not connected? [<u>No</u>] Aquifers are connected, see 6. above</p> <p>6b. Cuttings/development water handled IAW WAC 173-303? [<u>ND</u>] Drilled before applicable date of WAC 173-303</p> <p>6c. Well properly identified? [<u>No</u>] No permanent identification</p> <p>7. Is surface protection IAW WAC 173-160-510? [<u>No</u>] Pad only</p> <p>7a. Well capped and protected? [<u>Yes</u>] Has locked cap and pad</p> <p>7b. Protective posts, surface pad or cover installed? [<u>No</u>] See 7a. above, no posts</p> <p>7c. Surface protection waived or variance obtained? [<u>N/A</u>]</p> <p>7d. Is existing surface protection damaged? [<u>No</u>]</p> <p>8. Are casing materials IAW 173-160-520? [<u>ND</u>] Casing is carbon steel</p> <p>9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530? [<u>ND</u>] Not documented, assumed not</p> <p>9a. Drill rig/equipment casing/screen cleaned? [<u>N/A</u>] No screen</p> <p>9b. Filter pack cleaned? Material compatible? [<u>N/A</u>] No filter pack</p> <tr><td colspan="2">RCRA/CERCLA MONITORING WELL?</td></tr> <tr><td colspan="2"><p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>ND</u>]</p><p>10a. Screened interval documented? [<u>N/A</u>] No screen</p><p>10b. Vertical lithology documented? [<u>Yes</u>] Driller's log</p></td></tr>		RCRA/CERCLA MONITORING WELL?		<p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>ND</u>]</p> <p>10a. Screened interval documented? [<u>N/A</u>] No screen</p> <p>10b. Vertical lithology documented? [<u>Yes</u>] Driller's log</p>	
RCRA/CERCLA MONITORING WELL?					
<p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>ND</u>]</p> <p>10a. Screened interval documented? [<u>N/A</u>] No screen</p> <p>10b. Vertical lithology documented? [<u>Yes</u>] Driller's log</p>					

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST		1. Well No. <u>699-20-82</u>
		Page 2 of 2

11. Is design and construction IAW WAC 173-160-5407
(N/A) Does not meet requirements

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
(N/A) No screen

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
(N/A) No filter pack

11c. Well has been developed.
(ND) Not documented

11d. Annulus grouted with bentonite or bentonite/cement mixture.
(No) No annular seal

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.
(N/A) _____

13. Data Sources Used:

Logs:

Driller's: <u>G. E. Scott/Co not documented</u>	Date: <u>03/01/29</u>	Company: _____
Geologist: <u>N/A</u>	Date: _____	Company: _____
Geophysical: <u>N/A</u>	Date: _____	Company: _____
Television: <u>N/A</u>	Date: _____	Company: _____

Publications: Title, Author, Date
HANFORD WELLS, V. L. McGhan, June 1989

Databases:
WHC GWWS Well Database

Field Check: WHC GWWS Date: 07/16/93 Company: _____

Other: _____

14. Comments: Identify evaluation criteria addressed by number:
[15] Well connects aquifers and has downhole flow. Remediation and/or decommissioning is required. See attached well decommissioning plan unless user requires remediation.

15. Status

Well is acceptable for intended use	(<u>No</u>) <u>Connects aquifers</u>
Well is acceptable for intended use if variance is granted	(<u>No</u>) <u>Remediate/decommission</u>
Rehabilitation required to continue intended use	(<u>No</u>) <u>Remediate/decommission</u>
Remediation required to achieve intended use	(<u>Yes</u>) <u>See comments</u>
Decommission, well is unneeded or cannot be remediated	(<u>Yes</u>) <u>Required for ALE cleanup</u>
Other _____	(_____) _____

16. Status Recommendation
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/29/93

No construction data available

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RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	<div style="border-bottom: 1px solid black; padding-bottom: 2px;">1. Well No. <u>699-24-95</u></div> <div style="padding-top: 2px;">Page 1 of 2</div>
<div>2. Has a need for use of the well been identified and documented? [<u>ND</u>] <u>Well identified for decommissioning as a part of ALE cleanup</u></div> <div>3. Is well presently in use? [<u>Yes</u>] <u>Rattlesnake Springs ALE water supply</u></div> <div>4. Is casing sealed in accordance with IAW WAC 173-160-075? [<u>ND</u>] <u>Not document, no construction information available</u></div> <div>4a. Natural barriers preserved? [<u>ND</u>] _____</div> <div>4b. Aquifer/strata penetrated permanently sealed? [<u>ND</u>] _____</div> <div>4c. Annulus sealed against surface water? [<u>ND</u>] _____</div> <div>4d. Casing overlap more than 8 ft; packed and grouted? [<u>ND</u>] _____</div> <div>5. If not in use, is well capped IAW WAC 173-160-085? [<u>ND</u>] _____</div> <div>6. Is design and construction IAW WAC 173-160-500? [<u>ND</u>] _____</div> <div>6a. Saturated formation/aquifers not connected? [<u>ND</u>] _____</div> <div>6b. Cuttings/development water handled IAW WAC 173-303? [<u>ND</u>] _____</div> <div>6c. Well properly identified? [<u>ND</u>] _____</div> <div>7. Is surface protection IAW WAC 173-160-510? [<u>ND</u>] _____</div> <div>7a. Well capped and protected? [<u>ND</u>] _____</div> <div>7b. Protective posts, surface pad or cover installed? [<u>ND</u>] _____</div> <div>7c. Surface protection waived or variance obtained? [<u>ND</u>] _____</div> <div>7d. Is existing surface protection damaged? [<u>ND</u>] _____</div> <div>8. Are casing materials IAW 173-160-520? [<u>ND</u>] _____</div> <div>9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530? [<u>ND</u>] _____</div> <div>9a. Drill rig/equipment casing/screen cleaned? [<u>ND</u>] _____</div> <div>9b. Filter pack cleaned? Material compatible? [<u>ND</u>] _____</div> <div style="border-top: 1px solid black; padding-top: 5px;">RCRA/CERCLA MONITORING WELL?</div> <div>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>ND</u>] _____</div> <div>10a. Screened interval documented? [<u>ND</u>] _____</div> <div>10b. Vertical lithology documented? [<u>ND</u>] _____</div>	

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST		1. Well No. 699-24-95
		Page 2 of 2

11. Is design and construction IAW WAC 173-160-5407
 [ND] _____

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
 [ND] _____

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
 [ND] _____

11c. Well has been developed.
 [ND] _____

11d. Annulus grouted with bentonite or bentonite/cement mixture.
 [ND] _____

12. Does water sample meet established acceptance criteria?
 Sample is less than 5 NTU and sand free.
 [ND] _____

13. Data Sources Used:

Logs:

Driller's: <u>ND</u>	Date: _____	Company: _____
Geologist: <u>ND</u>	Date: _____	Company: _____
Geophysical: <u>ND</u>	Date: _____	Company: _____
Television: <u>ND</u>	Date: _____	Company: _____

Publications: Title, Author, Date
HANFORD WELLS, V. 1. McGhan, June, 1989

Databases:
N/A

Field Check: None Date: _____ Company: _____

Other:

14. Comments: Identify evaluation criteria addressed by number:
[15] No construction data available.

15. Status

Well is acceptable for intended use	[<u>ND</u>]	Not documented
Well is acceptable for intended use if variance is granted	[<u>ND</u>]	Not documented
Rehabilitation required to continue intended use	[<u>ND</u>]	Not documented
Remediation required to achieve intended use	[<u>ND</u>]	Not documented
Decommission, well is unneeded or cannot be remediated	[<u>Yes</u>]	Required for ALE cleanup
Other _____	[_____]	_____

16. Status Recommendation
 Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/29/93

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Drive barrel Method: Hard tool	WELL NUMBER: 699-26-89	TEMPORARY WELL NO: _____
Drilling Fluid Used: Water	Additives Used: Cable pieces	Hanford	
Driller's Name: E. Wilcox/L. Smith	WA State Lic Nr: Not documented	Coordinates: N/S N 26,000 E/W W 89,000	
Drilling Company: Haden Drilling Co	Company Location: Not documented	State	
Date Started: 19Nov62	Date Complete: 11Dec62	Coordinates: N 431,073 E 2,206,258	
		Start Card #: Not documented	T _____ R _____ S _____
		Elevation	
		Ground surface: 652.4-ft Estimated	

Depth to water: 334.0-ft 05Dec62
(Ground surface) 182.2-ft 03Jun93

GENERALIZED Driller's
STRATIGRAPHY Log

0~15: Fine SAND & SILT, tan-brown
15~45: Silty fine SAND
45~50: Silty fine SAND w/2-in GRAVEL
50~55: Silty fine SAND & basalt GRAVEL
50~109: Basalt GRAVEL w/SAND, and trace SILT
109~130: CLAY w/some SAND, GRAVEL & SILT
130~139: CLAY w/SAND & SILT
139~145: GRAVEL w/some CLAY, SAND & SILT
145~150: GRAVEL w/trace SILT & SAND
150~155: GRAVEL w/trace CLAY/SILT/SAND
155~160: SAND & SILT & some GRAVEL
160~165: Fine SAND w/GRAVEL tr/SILT
165~175: GRAVEL & SAND, trace SILT
175~180: GRAVEL & SAND w/SILT
180~195: GRAVEL, trace SAND & SILT
195~200: GRAVEL & SAND, w/little SILT
200~220: SAND & GRAVEL trace SILT
220~235: Pea GRAVEL & SAND
235~245: Fine SAND & GRAVEL, tr SILT
245~250: SAND w/GRAVEL & SILT
250~275: SAND w/GRAVEL
275~290: SAND & GRAVEL trace SILT
290~295: GRAVEL & SAND trace SILT
295~307: SAND & GRAVEL
307~315: SILT & GRAVEL some CLAY
315~318: Lt tan shale CLAY w/some SAND
318~325: Black CLAY w/trace SAND
325~355: Black CLAY w/shale CLAY
355~365: Black CLAY w/shale & GRAVEL
365~370: GRAVEL w/some shale
370~380: GRAVEL w/some CALICHE
380~390: GRAVEL w/SAND, trace SILT
390~395: GRAVEL & silty SAND
395~415: GRAVEL & SAND, trace SILT
415~419: SAND, trace SILT
419~428: Yellow CLAY w/little GRAVEL
428~435: Blue CLAY
435~440: Black SILT, trace CLAY
440~460: Black silty CLAY
460~475: Black silty CLAY, SAND & GRAVEL
475~476: Black sandy SILT, trace GRAVEL
476~480: Blue SAND & SILT
480~490: Black SAND & SILT
490~500: BASALT cuttings and SAND

Elevation of reference point: [653.08-ft]
(top of casing)
Height of reference point above [0.7-ft]
ground surface

Depth of surface seal [NO]
No surface seal documented

8-in ID carbon steel casing,
+0.7~492-ft

Hole diameter,
0~492-ft, 9-in nominal

Depth to bottom,
230.4-ft, 03Jun93

8-in casing perforations,
165~198-ft, not documented
198~294-ft, 2 cuts/ft/rd
295~409-ft, 6 cuts/rd/ft
410~419-ft, 2 cuts/rd/ft
420~469-ft, 6 cuts/rd/ft
470~488-ft, 2 cuts/rd/ft

Cement plug,
@ 250-ft

REMEDIATION,
Mar80 by M. Bultena
Cleaned well to 250-ft
set cement plug in bottom.

Hole diameter,
492~500-ft, 8-in nominal

Borehole drilled depth: [500-ft]

Drawing By: RKL/6N26W89.ASB
Date: 30Sep93
Reference: HANFORD WELLS

DIAGRAMMATIC WELL DECOMMISSIONING PLAN		
Drilling Method: <u>Cable tool</u> Fluid Used: <u>Water</u> Driller's Name: <u>E. Wilcox/L. Smith</u> Company: <u>Maden Drilling Co</u> Date Started: <u>19Nov62</u>	Sample Drive barrel Method: <u>Hard tool</u> Additives Used: <u>Cable pieces</u> WA State Lic Nr: <u>Not documented</u> Company Location: <u>Not documented</u> Date Complete: <u>11Dec62</u>	WELL NUMBER: <u>699-26-89</u> Hanford Coordinates: N/S <u>N 26,000</u> E/W <u>W 89,000</u> State Coordinates: N <u>431,073</u> E <u>2,206,258</u> Start Card #: <u>Not documented</u> T <u> </u> R <u> </u> S <u> </u> Elevation Ground surface: <u>652.4-ft Estimated</u>
Depth to water: <u>334.0-ft 05Dec62</u> (Ground surface) <u>182.2-ft 03Jun93</u>		
DIAGRAMMATIC DECOMMISSIONING PLAN (Depths from ground surface)		
[1] Place sand fill, 180"-230-ft; bentonite plug, 175"-180-ft. [2] Perforate, 120"-165-ft and pressure grout w/ neat cement, 120"-175-ft. [3] Perforate, 60"-120-ft and pressure grout w/ neat cement. [4] Perforate, 3"-60-ft and pressure grout w/ neat cement. [5] Cut casing @ 3-ft, place concrete or metal cap, fill to grade and compact.		Elevation of reference point: <u>[653.08-ft]</u> (top of casing) Height of reference point above <u>[0.7-ft]</u> ground surface Depth of surface seal <u>[ND]</u> No surface seal documented 8-in ID carbon steel casing, <u>+0.7"-492-ft</u> Hole diameter, 9-in nominal <u>0"-492-ft</u> Depth to bottom, 03Jun93 <u>230.4-ft</u> 8-in casing perforations, 165"-198-ft, not documented <u>198"-294-ft, 2 cuts/ft/rd</u> <u>295"-409-ft, 6 cuts/rd/ft</u> <u>410"-419-ft, 2 cuts/rd/ft</u> <u>420"-469-ft, 6 cuts/rd/ft</u> <u>470"-488-ft, 2 cuts/rd/ft</u> Cement plug, <u>@ 250-ft</u> REMEDIATION, Mar80 by M. Bultena Cleaned well to 250-ft set cement plug in bottom. Casing to <u>492-ft</u> Hole diameter, 8-in nominal <u>492"-500-ft</u> Depth bottom of borehole: <u>[500-ft]</u>
Drawing By: <u>RKL/6N26W89.PLN</u> Date : <u>17Aug93</u> Reference : <u>HANFORD WELLS</u>		

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	1. Well No. 699-26-89 Page 1 of 2
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2. Has a need for use of the well been identified and documented?
(ND) Well identified for decommissioning as a part of ALE cleanup

3. Is well presently in use?
(Yes) WHC and PNL water levels

4. Is casing sealed in accordance with IAW WAC 173-160-075?
(No) No surface or annular seal

4a. Natural barriers preserved?
(N/A) Unconfined aquifer, may contain semiconfined aquifers

4b. Aquifer/strata penetrated permanently sealed?
(No) No annular seal

4c. Annulus sealed against surface water?
(No) No surface seal or pad

4d. Casing overlap more than 8 ft; packed and grouted?
(N/A) Single casing string

5. If not in use, is well capped IAW WAC 173-160-085?
(N/A) Capped and locked

6. Is design and construction IAW WAC 173-160-500?
(NO) Does not meet water well construction standards

6a. Saturated formation/aquifers not connected?
(ND) See 4a

6b. Cuttings/development water handled IAW WAC 173-303?
(N/A) Drilled before effective date of WAC 173-303

6c. Well properly identified?
(No) Nor permanent identification

7. Is surface protection IAW WAC 173-160-510?
(No) No surface protection

7a. Well capped and protected?
(No) Well capped, no protection

7b. Protective posts, surface pad or cover installed?
(No) _____

7c. Surface protection waived or variance obtained?
(No) _____

7d. Is existing surface protection damaged?
(N/A) _____

8. Are casing materials IAW 173-160-520?
(ND) Carbon steel casing

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
(ND) Not documented, assumed not

9a. Drill rig/equipment casing/screen cleaned?
(ND) Not documented, assumed not

9b. Filter pack cleaned? Material compatible?
(N/A) No filter pack

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
(ND) Not documented

10a. Screened interval documented?
(N/A) No screen

10b. Vertical lithology documented?
(Yes) Driller's log

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	1. Well No. <u>699-26-89</u> Page 2 of 2
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11. Is design and construction IAW WAC 173-160-540?

(No) Does not meet requirements

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?

(N/A) No screen

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.

(N/A) No filter pack

11c. Well has been developed.

(ND) Not documented

11d. Annulus grouted with bentonite or bentonite/cement mixture.

(No) No annular seal

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.

(ND) Not documented

13. Data Sources Used:

Logs:

Driller's: Wilcox/Smith, Haden Drilling Date: 12/11/62 Company: _____

Geologist: N/A Date: _____ Company: _____

Geophysical: N/A Date: _____ Company: _____

Television: N/A Date: _____ Company: _____

Publications: Title, Author, Date

HANFORD WELLS, V. L. McGhan, June 1989

Databases:

WHC GWWS

Field Check: WHC GWWS Date: 06/03/93 Company: _____

Other: _____

14. Comments: Identify evaluation criteria addressed by number:

[15] Well does not meet monitoring well construction criteria.

15. Status

Well is acceptable for intended use (No) No surface/annular seal

Well is acceptable for intended use if variance is granted (No) No surface annular/seal

Rehabilitation required to continue intended use (Yes) Well has fill

Remediation required to achieve intended use (Yes) Surface seal

Decommission, well is unneeded or cannot be remediated (Yes) Required for ALE cleanup

Other: _____ () _____

16. Status Recommendation

Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/29/93

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: <u>Cable tool</u>	Sample Drive barrel Method: <u>Hard tool</u>	WELL NUMBER: <u>699-36-93</u>	TEMPORARY WELL NO: _____
Drilling Fluid Used: <u>Water</u>	Additives Used: <u>Not documented</u>	Hanford Coordinates: N/S <u>N 36,000</u>	E/W <u>W 93,000</u>
Driller's Name: <u>C. Guant/Trantham</u>	WA State Lic Nr: <u>Not documented</u>	State Coordinates: N <u>441,063</u>	E <u>2,202,233</u>
Drilling Company: <u>Not documented</u>	Company Location: <u>Not documented</u>	Start Card #: <u>Not documented</u>	T _____ R _____ S _____
Date Started: <u>20Nov61</u>	Date Complete: <u>10Jan62</u>	Elevation Ground surface: <u>642.8-ft Estimated</u>	

Depth to water: 190.0-ft 10Jan62
 (Ground surface) 172.3-ft 03Jun93

GENERALIZED Driller's
 STRATIGRAPHY Log

0~10: Dy real fine SILT
 10~35: SILT & fine SAND
 35~45: Brown SAND
 45~50: SILT w/moisture
 50~65: SAND & GRAVEL 6-in COBBLES
 65~75: Brown SILT, SAND & GRAVEL 2~3-in
 75~115: SAND & GRAVEL, 3~4-in
 (Perched water @ 114-ft)
 115~120: Brown silty sandy CLAY
 120~125: Sandy CLAY & GRAVEL to 4-in
 125~140: Grey-brown SAND & GRAVEL
 140~154: Fine brown SAND (moist)
 154~180: SILT, SAND, GRAVEL to 3~4-in
 180~185: Cemented GRAVEL
 185~205: SAND & GRAVEL
 205~230: SILT, SAND, GRAVEL some cement
 230~392: Cemented GRAVEL
 392~415: Gray CLAY w/GRAVEL
 415~425: Dark gray silty CLAY
 425~430: Sticky blue CLAY w/GRAVEL
 430~432: Blue & brown CLAY
 432~449: Cemented GRAVEL, SILT & SAND
 449~455: Blue silty CLAY
 455~470: Grey silty CLAY
 470~491: Silty sticky CLAY some GRAVEL
 491~506: Hard bluegreen SAND
 506~520: Black or blue CLAY & SAND
 520~540: CLAY w/GRAVEL
 540~560: Grey SAND w/CLAY, SILT, ROCK
 560~585: Cemented GRAVEL
 585~605: Silty CLAY, some SAND & GRAVEL
 605~610: SAND & SILT
 610~620: SAND, some ROCK
 620~625: Silty sandy CLAY
 625~650: SAND, some GRAVEL & SILT
 650~670: SAND, SILT, CLAY & GRAVEL
 670~680: Gravelly silty SAND
 680~686: Sticky reddish-brown
 SILT, SAND & GRAVEL
 686~700: Black BASALT

Elevation of reference point: (644.77-ft)
 (top of casing)
 Height of reference point above (+2.0-ft)
 ground surface

Depth of surface seal (ND)
 No surface seal documented

8-in ID carbon steel casing,
+2.0~685-ft

Hole diameter,
0~685-ft, 9-in nominal

8-in casing perforations,
170~180-ft, 2 cuts/ft/rd 12Jun64
185~535-ft, 4 cuts/ft/rd 10Jan62
345~365-ft, 4 cuts/rd/ft 12Jun64
425~445-ft, 4 cuts/rd/ft 12Jun64
505~525-ft, 4 cuts/rd/ft 12Jun64
585~605-ft, 4 cuts/rd/ft 12Jun64
535~560-ft, 1 cut/rd/ft 10Jan62
560~590-ft, 6 cuts/rd/ft 10Jan62
605~625-ft, 4 cuts/rd/ft 12Jun64

REMEDIATIONS:

Jun64 by Vincent/Storey/Crowe
 Perforated 6-zones and set
 6 gravel packed plastic piezometers.
 Mar-Apr76 by M Bultena
 Cleaned out all piezometer
 tubes to 475-ft

Casing to 685-ft

Hole diameter, 8-in nominal
685~700-ft

Depth bottom of borehole: [700-ft]

Drawing By: RKL/6N36W93.ASB
 Date: 06Oct93
 Reference: HANFORD WELLS

DIAGRAMMATIC WELL DECOMMISSIONING PLAN			
Drilling Method: <u>Cable tool</u> Fluid Used: <u>Water</u> Driller's Name: <u>C. Guant/Trantham</u> Company: <u>Not documented</u> Date Started: <u>20Nov61</u>	Sample Drive barrel Method: <u>Hard tool</u> Additives Used: <u>Not documented</u> WA State Lic Nr: <u>Not documented</u> Company Location: <u>Not documented</u> Date Complete: <u>10Jan62</u>	WELL NUMBER: <u>699-36-93</u> Hanford Coordinates: N/S <u>N 36,000</u> E/W <u>W 93,000</u> State Coordinates: N <u>441,063</u> E <u>2,202,233</u> Start Card #: <u>Not documented</u> T <u> </u> R <u> </u> S <u> </u> Elevation Ground surface: <u>642.8-ft Estimated</u>	
Depth to water: <u>190.0-ft 10Jan62</u> (Ground surface) <u>172.3-ft 03Jun93</u>			
DIAGRAMMATIC DECOMMISSIONING PLAN (Depths from ground surface)			
<div style="display: flex;"> <div style="flex: 1;"> <p>[1] Clean out gravel pack and remaining piezometer tubes, 475-700-ft.</p> <p>[2] Perforate, 625-685-ft.</p> <p>[3] Place neat cement plug, 680-700-ft.; bentonite slurry, 390-680-ft and sand fill, 170-390-ft.</p> <p>[4] Perforate, 120-170-ft, place bentonite crumbles, 165-170-ft; pressure grout w/neat cement 120-165-ft.</p> <p>[5] Perforate, 60-120-ft, pressure grout w/neat cement.</p> <p>[6] Perforate, 3-60-ft, pressure grout w/neat cement.</p> <p>[7] Cut casing @ 3-ft, place concrete or metal cap, fill to grade and compact.</p> </div> <div style="flex: 2;"> <div style="position: absolute; right: 10px; top: 240px; width: 200px;"> <p>Elevation of reference point: <u>[644.77-ft]</u> (top of casing) Height of reference point above <u>[+2.0-ft]</u> ground surface</p> <p>Depth of surface seal <u>[ND]</u> No surface seal documented</p> <p>8-in ID carbon steel casing, <u>+0.7-685-ft</u></p> <p>Hole diameter, 9-in nominal <u>0-685-ft</u></p> <p>8-in casing perforations, <u>170-180-ft, 2 cuts/ft/rd 12Jun64</u> <u>185-535-ft, 4 cuts/ft/rd 10Jan62</u> <u>345-365-ft, 4 cuts/rd/ft 12Jun64</u> <u>425-445-ft, 4 cuts/rd/ft 12Jun64</u> <u>505-525-ft, 4 cuts/rd/ft 12Jun64</u> <u>585-605-ft, 4 cuts/rd/ft 12Jun64</u> <u>535-560-ft, 1 cut/rd/ft 10Jan62</u> <u>560-590-ft, 6 cuts/rd/ft 10Jan62</u> <u>605-625-ft, 4 cuts/rd/ft 12Jun64</u></p> <p>REMEDICATIONS: Jun64 by Vincent/Storey/Crowe Perforated 6-zones and set 6 gravel packed plastic piezometers. Mar-Apr76 by M Bultena Cleaned out all piezometer tubes to 475-ft</p> <p>Casing to <u>685-ft</u></p> <p>Hole diameter, 8-in nominal <u>685-700-ft</u></p> <p>Depth bottom of borehole: <u>[700-ft]</u></p> </div> </div> </div>			
Drawing By: <u>RKL/6N36W93.PLN</u> Date: <u>17Aug93</u> Reference: <u>HANFORD WELLS</u>			

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	1. Well No. <u>699-36-93</u> Page 1 of 2
<p>2. Has a need for use of the well been identified and documented? [<u>ND</u>] <u>Well identified for decommissioning as a part of ALE cleanup</u></p> <p>3. Is well presently in use? [<u>Yes</u>] <u>WHC and PNL water levels, PNL sampling</u></p> <p>4. Is casing sealed in accordance with IAW WAC 173-160-075? [<u>No</u>] <u>No surface or annular seal</u></p> <p>4a. Natural barriers preserved? [<u>No</u>] <u>Has gravel packed piezometers, no seals or plugs</u></p> <p>4b. Aquifer/strata penetrated permanently sealed? [<u>No</u>] <u>No seals or plugs</u></p> <p>4c. Annulus sealed against surface water? [<u>No</u>] <u>No surface seal</u></p> <p>4d. Casing overlap more than 8 ft; packed and grouted? [<u>ND</u>] <u>Singles casing string</u></p> <p>5. If not in use, is well capped IAW WAC 173-160-085? [<u>ND</u>] <u>Not documented</u></p> <p>6. Is design and construction IAW WAC 173-160-500? [<u>No</u>] <u>Does not meet water well construction standards</u></p> <p>6a. Saturated formation/aquifers not connected? [<u>ND</u>] <u>May contain aquifer interconnection</u></p> <p>6b. Cuttings/development water handled IAW WAC 173-303? [<u>N/A</u>] <u>Drilled before effective data of WAC 173-303</u></p> <p>6c. Well properly identified? [<u>ND</u>] _____</p> <p>7. Is surface protection IAW WAC 173-160-510? [<u>No</u>] <u>No surface protection</u></p> <p>7a. Well capped and protected? [<u>ND</u>] <u>Cap not documented, assumed capped and locked</u></p> <p>7b. Protective posts, surface pad or cover installed? [<u>No</u>] <u>No posts or pad assumed</u></p> <p>7c. Surface protection waived or variance obtained? [<u>No</u>] _____</p> <p>7d. Is existing surface protection damaged? [<u>N/A</u>] _____</p> <p>8. Are casing materials IAW 173-160-520? [<u>ND</u>] <u>Carbon steel casing</u></p> <p>9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530? [<u>ND</u>] <u>Not documented, assumed no</u></p> <p>9a. Drill rig/equipment casing/screen cleaned? [<u>ND</u>] <u>Not documented, assumed no</u></p> <p>9b. Filter pack cleaned? Material compatible? [<u>N/A</u>] <u>No filter pack</u></p> <p>RCRA/CERCLA MONITORING WELL?</p> <p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>ND</u>] <u>Not documented</u></p> <p>10a. Screened interval documented? [<u>N/A</u>] <u>No screen</u></p> <p>10b. Vertical lithology documented? [<u>Yes</u>] <u>Driller's log</u></p>	

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST		1. Well No. 699-36-93
		Page 2 of 2

11. Is design and construction IAW WAC 173-160-540?

☐ No ☒ Does not meet requirements

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?

☐ N/A ☒ No screen

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.

☐ N/A ☒ No filter pack

11c. Well has been developed.

☐ ND ☒ Not documented

11d. Annulus grouted with bentonite or bentonite/cement mixture.

☐ N/A ☒ No annular seal

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.

☐ ND ☒ Not documented

13. Data Sources Used:

Logs:

Driller's: Grant/Trantham, Co ND Date: 01/10/62 Company: _____

Geologist: N/A Date: _____ Company: _____

Geophysical: N/A Date: _____ Company: _____

Television: N/a Date: _____ Company: _____

Publications: Title, Author, Date

HANFORD WELLS. V. L. McGhan, June 1989

Databases:

WHC GWWS

Field Check: N/A Date: _____ Company: _____

Other: _____

14. Comments: Identify evaluation criteria addressed by number:

[15] Well does not meet monitoring well construction criteria.

15. Status

Well is acceptable for intended use ☐ No ☒ No surface/annular seal

Well is acceptable for intended use if variance is granted ☐ No ☒ No surface/annular seal

Rehabilitation required to continue intended use ☐ No ☒ No fill documented

Remediation required to achieve intended use ☐ Yes ☒ Surface sela

Decommission, well is unneeded or cannot be remediated ☐ Yes ☒ Required for ALE cleanup

Other ☐ _____ ☒ _____

16. Status Recommendation

Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/29/93

WELL CONSTRUCTION AND COMPLETION SUMMARY

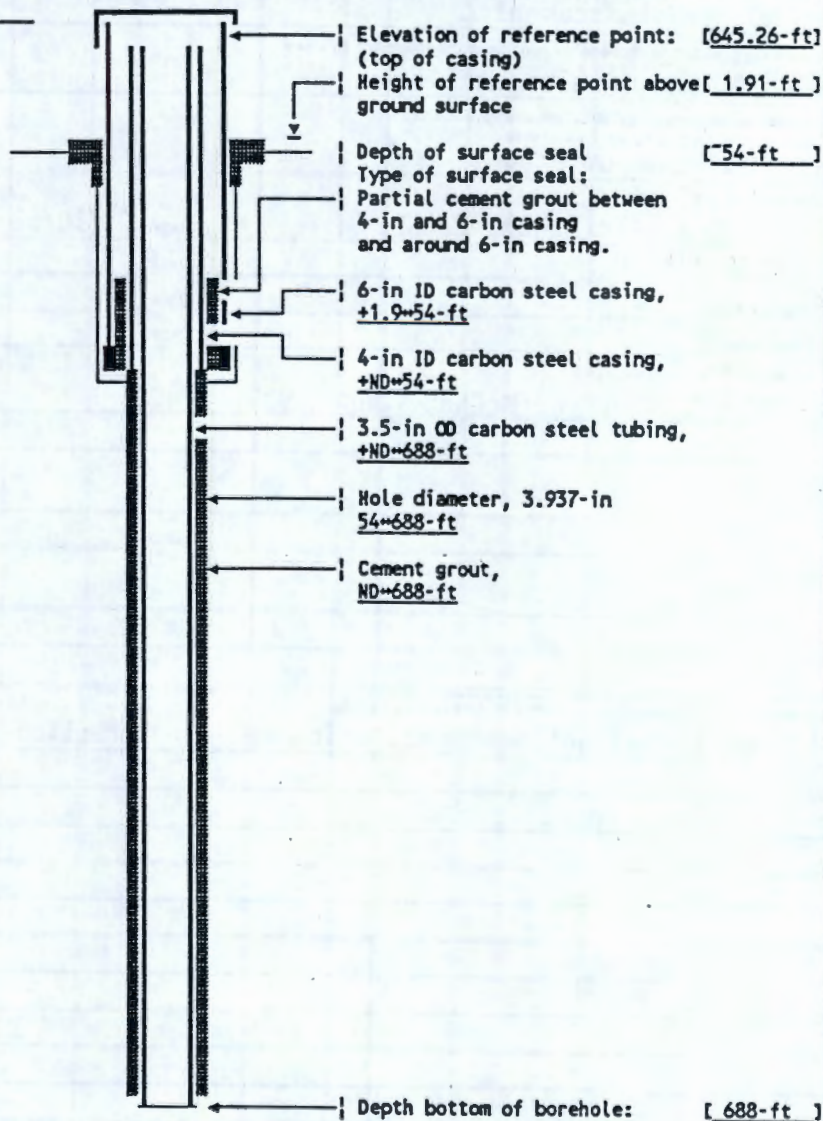
Drilling Cable tool (0-54-ft) Sample
Method: Core (54-688-ft) Method: Wireline core
Drilling Additives
Fluid Used: Drilling mud Used: Not documented
Driller's WA State
Name: Not documented Lic Nr: Not documented
Drilling Company
Company: Rockwell Hanford Location: Richland, WA
Date Date
Started: 22May81 Complete: 12Aug81

WELL TEMPORARY Corehole
NUMBER: 699-37-92 WELL NO: DH-22
Hanford
Coordinates: N/S N 36,578 E/W W 91,786
State
Coordinates: N N 441,644.32 E 2,203,445.06
Start
Card #: Not documented T12N R25E S 9G1
Elevation
Ground surface: 643.35-ft Brass cap

Depth to water: Not documented
(Ground surface)

GENERALIZED Geologist's
STRATIGRAPHY Log

0-48: Hanford Formation
48-120: Plio-Pleistocene
120-152: Upper Ringold Unit
152-441: Middle Ringold Unit
441-488: Lower Ringold Unit
488-531: Basal Ringold Unit
531-673: Basalt Ringold
(Gravel subunit)
673-688: BASALT
(Elephant Mt Member)



Drawing By: RKL/6N37W92.ASB
Date : 06Oct93
Reference : HANFORD WELLS

DIAGRAMMATIC WELL DECOMMISSIONING PLAN

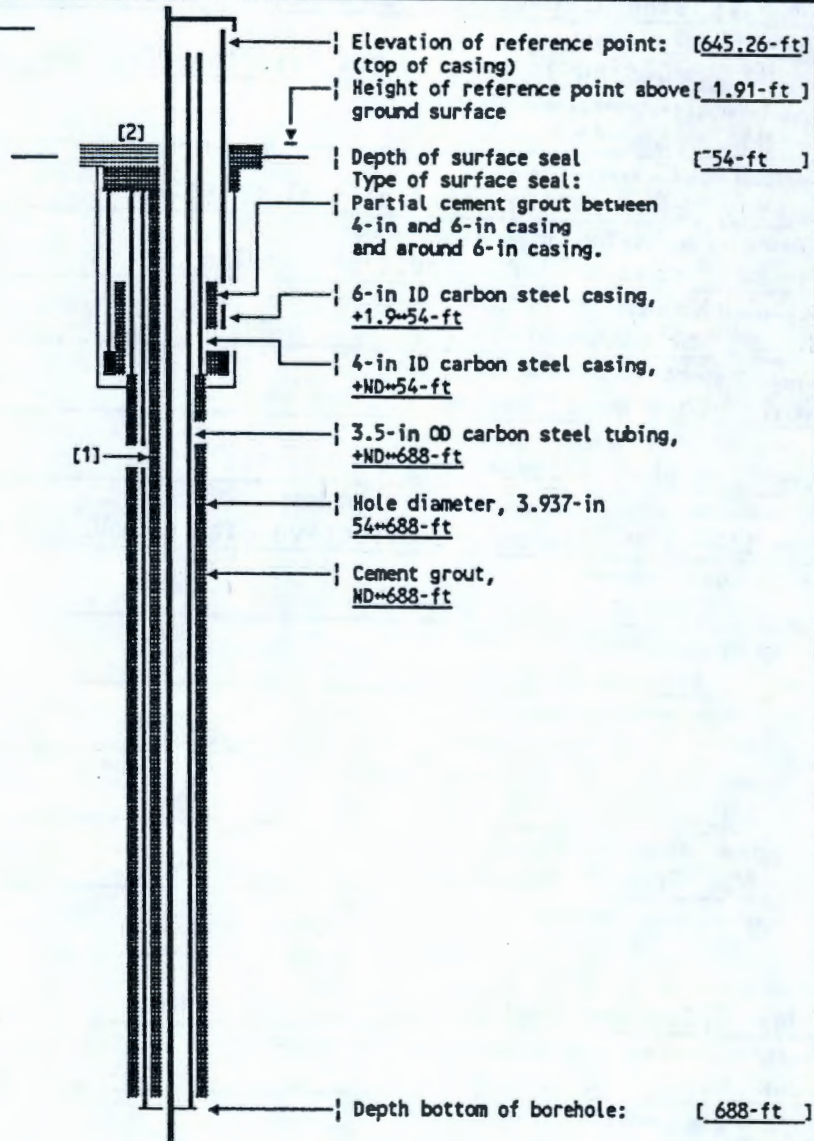
Drilling Cable tool (0-54-ft) Sample	Method: Wireline core	WELL NUMBER: 699-37-92	TEMPORARY Corehole
Method: Core (54-688-ft)	Additives	WELL NO: DH-22	
Drilling	Used: Not documented	Hanford	
Fluid Used: Drilling mud	WA State	Coordinates: N/S N 36,578 E/W W 91,786	
Driller's	Lic Nr: Not documented	State	
Name: Not documented	Company	Coordinates: N N 441,644.32 E 2,203,445.06	
Drilling	Location: Richland, WA	Start	
Company: Rockwell Hanford	Date	Card #: Not documented	T12W R25E S 9G1
Date	Complete: 12Aug81	Elevation	
Started: 22May81		Ground surface (ft): 643.35	Brass cap

Depth to water: Not documented
(Ground surface)

DIAGRAMMATIC
DECOMMISSIONING PLAN
(Depths from ground surface)

[1] Grout w/neat cement
or bentonite slurry,
3-688-ft in 100-ft lifts.

[2] Cut casing @ 3-ft,
place concrete or metal cap,
fill to grade and compact.



Drawing By: RKL/6N37W92.PLN
Date: 17Aug93
Reference: HANFORD WELLS

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	1. Well No. 699-37-92 Page 1 of 2
<p>2. Has a need for use of the well been identified and documented? [<u>ND</u>] Well identified for decommissioning as part of ALE cleanup</p> <p>3. Is well presently in use? [<u>Yes</u>] PNL water levels, possible confined monitoring</p> <p>4. Is casing sealed in accordance with IAW WAC 173-160-0757? [<u>No</u>] Casing is partially gerouted</p> <p>4a. Natural barriers preserved? [<u>No</u>] Casing is grouted but less than 2-in annulus</p> <p>4b. Aquifer/strata penetrated permanently sealed? [<u>No</u>] See 4a.</p> <p>4c. Annulus sealed against surface water? [<u>Yes</u>] Has partial surface seal to 54-ft</p> <p>4d. Casing overlap more than 8 ft; packed and grouted? [<u>Yes</u>] See well construction drawing</p> <p>5. If not in use, is well capped IAW WAC 173-160-0857? [<u>ND</u>] Not documented</p> <p>6. Is design and construction IAW WAC 173-160-5007? [<u>N/A</u>] Core hole, not monitoring well</p> <p>6a. Saturated formation/aquifers not connected? [<u>ND</u>] Not documented</p> <p>6b. Cuttings/development water handled IAW WAC 173-3037? [<u>N/A</u>] Drilled before effective date of WAC 173-303</p> <p>6c. Well properly identified? [<u>ND</u>] Not documented</p> <p>7. Is surface protection IAW WAC 173-160-5107? [<u>ND</u>] Not documented</p> <p>7a. Well capped and protected? [<u>ND</u>] Not documented, assumed capped</p> <p>7b. Protective posts, surface pad or cover installed? [<u>ND</u>] Not documented</p> <p>7c. Surface protection waived or variance obtained? [<u>ND</u>] No documented</p> <p>7d. Is existing surface protection damaged? [<u>ND</u>] Not documented</p> <p>8. Are casing materials IAW 173-160-5207? [<u>ND</u>] Carbon steel casing</p> <p>9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-5307? [<u>No</u>] Not monitoring well</p> <p>9a. Drill rig/equipment casing/screen cleaned? [<u>No</u>] Not monitoring well</p> <p>9b. Filter pack cleaned? Material compatible? [<u>N/A</u>] No filter pack</p>	
RCRA/CERCLA MONITORING WELL?	
<p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>N/A</u>] Not monitoring well</p> <p>10a. Screened interval documented? [<u>N/A</u>] No screen</p> <p>10b. Vertical lithology documented? [<u>Yes</u>] Geologist's core log</p>	

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	1. Well No. <u>699-37-92</u> Page 2 of 2
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11. Is design and construction IAW WAC 173-160-540?

(N/A) Not monitoring well

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?

(N/A) No screen

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.

(N/A) No filter pack

11c. Well has been developed.

(ND) Not documented

11d. Annulus grouted with bentonite or bentonite/cement mixture.

(No) Casing is grouted with less than 2-in annulus

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.

(ND) Not documented

13. Data Sources Used:

Logs:

Driller's: N/A Date: _____ Company: _____

Geologist: Not document, Rockwell Hanford Date: 08/21/81 Company: _____

Geophysical: N/A Date: _____ Company: _____

Television: N/A Date: _____ Company: _____

Publications: Title, Author, Date

HANFORD WELLS, V. L. McGhan, June 1989

Databases:

Field Check: N/A Date: _____ Company: _____

Other:

14. Comments: Identify evaluation criteria addressed by number:

[15] Drilled as core hole. Does not meet monitoring well construction criteria.

15. Status

Well is acceptable for intended use (ND) No screen

Well is acceptable for intended use if variance is granted (N/A) Not applicable

Rehabilitation required to continue intended use (No) No fill documented

Remediation required to achieve intended use (ND) No remediation planned

Decommission, well is unneeded or cannot be remediated (Yes) Required for ALE cleanup

Other (_____) _____

16. Status Recommendation

Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/29/93

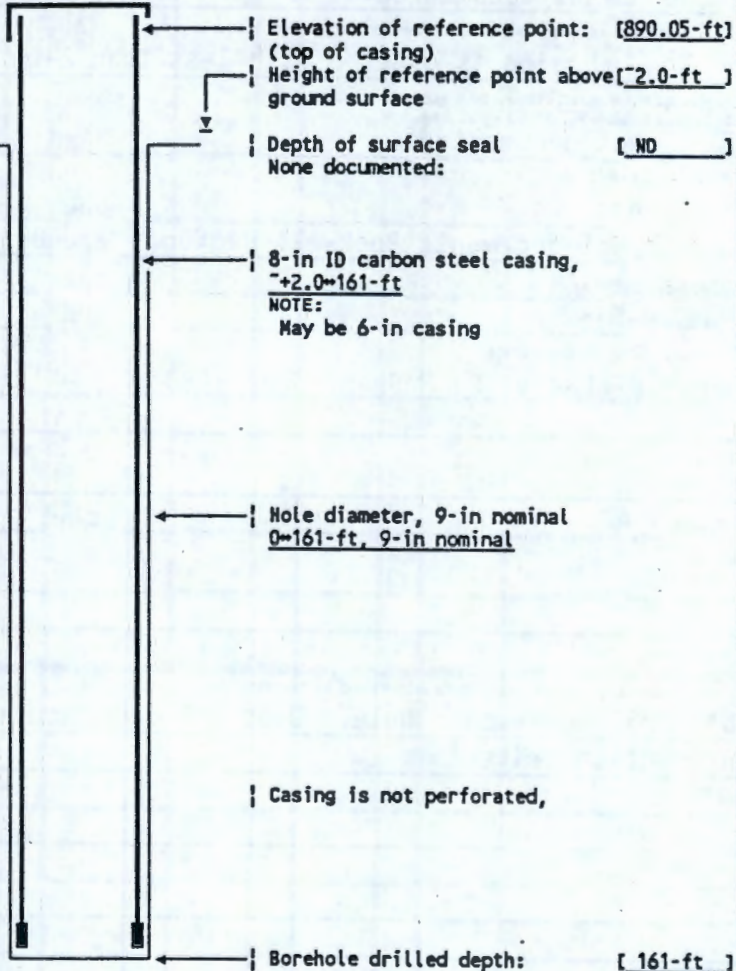
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: <u>Air rotary</u>	Sample Method: <u>Air returns</u>	WELL NUMBER: <u>699-39-103</u>	TEMPORARY WELL NO: _____
Drilling Fluid Used: <u>None</u>	Additives Used: <u>None</u>	Hanford	Coordinates: N/S <u>N 39,344</u> E/W <u>W 103,063</u>
Driller's Name: <u>Not documented</u>	WA State Lic Nr: <u>Not documented</u>	State	Coordinates: N <u>444,381</u> E <u>2,192,161</u>
Drilling Company: <u>Aqua Drilling Co</u>	Location: <u>Cour d'Alene ID</u>	Start Card #: <u>Not documented</u>	T _____ R _____ S _____
Date Started: <u>Mar76</u>	Date Complete: <u>Mar76</u>	Elevation	Ground surface: <u>888.0-ft Estimated</u>

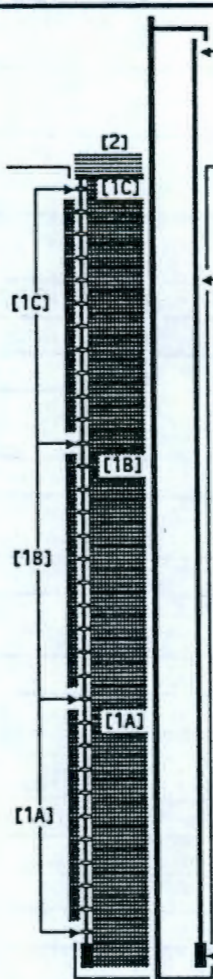
Depth to water: Not applicable
(Ground surface) Dry hole

GENERALIZED Geologist
STRATIGRAPHY Log

0~17: Fine SAND & SILT
17~20: CALICHE & GRAVEL
20~25: Fine SAND, GRAVEL to 1½-in
25~120: SAND & GRAVEL
120~125: CLAY
125~130: Silty CLAY, few small GRAVELS
130~138: Silty CLAY
138~140: Weathered BASALT
140~161: BASALT



Drawing By: RKL/6N39W103.ASB
Date : 06Oct93
Reference : HANFORD WELLS
RHO-LD-158

DIAGRAMMATIC WELL DECOMMISSIONING PLAN			
Drilling Method: <u>Air rotary</u> Fluid Used: <u>None</u> Driller's Name: <u>Not documented</u> Drilling Company: <u>Aqua Drilling Co</u> Date Started: <u>Mar76</u>	Sample Method: <u>Air returns</u> Additives Used: <u>None</u> WA State Lic Nr: <u>Not documented</u> Company Location: <u>Cour d'Alene ID</u> Date Complete: <u>Mar76</u>	WELL NUMBER: <u>699-39-103</u> TEMPORARY WELL NO: _____ Hanford Coordinates: N/S <u>N 39,344</u> E/W <u>W 103,063</u> State Coordinates: N <u>444,381</u> E <u>2,192,161</u> Start Card #: <u>Not documented</u> T _____ R _____ S _____ Elevation Ground surface: <u>888.0-ft Estimated</u>	
Depth to water: <u>Not applicable</u> (Ground surface) <u>Dry hole</u>			
DIAGRAMMATIC DECOMMISSIONING PLAN (Depths from ground surface)			
[1] Perforate 3" 161-ft and pressure grout in 3 approx 50-ft+ stages. [2] Cut casing @ 3-ft, place concrete or metal cap, fill to grade and compact.		 <p style="margin-left: 20px;">Elevation of reference point: [890.05-ft] (top of casing) Height of reference point above [2.0-ft] ground surface Depth of surface seal [ND] None documented: 8-in ID carbon steel casing, 3" 161-ft NOTE: May be 6-in casing Hole diameter, 9-in nominal 0" 161-ft Casing is not perforated, Depth bottom of casing: [161-ft] Depth bottom of borehole:</p>	
Drawing By: <u>RKL/6N39W103.PLN</u> Date : <u>17Aug93</u> Reference : <u>HANFORD WELLS</u> <u>RHO-LD-158</u>			

RESOURCE PROTECTION GROUNDWATER WELL
STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-39-103
Page 2 of 2

11. Is design and construction IAW WAC 173-160-540?

[No] Does not meet requirements

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?

[N/A] No screen

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.

[N/A] No filter pack

11c. Well has been developed.

[N/A] Well not to water

11d. Annulus grouted with bentonite or bentonite/cement mixture.

[No] No annular seal

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.

[N/A]

13. Data Sources Used:

Logs:

Driller's: N/A

Date:

Company:

Geologist: Atlantic Richfield Hanford

Date: Mar1976

Company:

Geophysical: N/A

Date:

Company:

Television: N/A

Date:

Company:

Publications: Title, Author, Date

HANFORD WELLS, V. L. McGhan, June 1989

Databases:

N/A

Field Check: N/A

Date:

Company:

Other:

14. Comments: Identify evaluation criteria addressed by number.

[15] Well does not meet monitoring well criteria. Drilled as
entrance hole for possible coring, does not reach water.

15. Status

Well is acceptable for intended use

[No] No intended use

Well is acceptable for intended use if variance is granted

[No] N/A

Rehabilitation required to continue intended use

[No] No rehab of value

Remediation required to achieve intended use

[No] No remediation required

Decommission, well is unneeded or cannot be remediated

[Yes] Required for ALE cleanup

Other

[]

16. Status Recommendation

Done By:

Name: R. K. Ledgerwood

Title: Principal Scientist

Date: 10/29-93

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	1. Well No. <u>699-39-103</u> Page 1 of 2
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2. Has a need for use of the well been identified and documented?
 (No) Well identified for decommissioning as a part of ALE cleanup
3. Is well presently in use?
 (No) No identified user
4. Is casing sealed in accordance with IAW WAC 173-160-075?
 (No) No surface or annular seal
 - 4a. Natural barriers preserved?
 (N/A) Above water table
 - 4b. Aquifer/strata penetrated permanently sealed?
 (N/A) See 4a.
 - 4c. Annulus sealed against surface water?
 (No) No surface seal
 - 4d. Casing overlap more than 8 ft; packed and grouted?
 (N/A) Single casing string
5. If not in use, is well capped IAW WAC 173-160-085?
 (N/A) _____
6. Is design and construction IAW WAC 173-160-500?
 (N/A) Does not meet water well construction standards
 - 6a. Saturated formation/aquifers not connected?
 (N/A) Not water well
 - 6b. Cuttings/development water handled IAW WAC 173-303?
 (N/A) Drilled before effective date of WAC 173-303
 - 6c. Well properly identified?
 (No) No permanent identification
7. Is surface protection IAW WAC 173-160-510?
 (No) No surface protection
 - 7a. Well capped and protected?
 (ND) Not documented
 - 7b. Protective posts, surface pad or cover installed?
 (No) No surface protection
 - 7c. Surface protection waived or variance obtained?
 (N/A) _____
 - 7d. Is existing surface protection damaged?
 (N/A) _____
8. Are casing materials IAW 173-160-520?
 (ND) Carbon steel casing
9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
 (No) _____
 - 9a. Drill rig/equipment casing/screen cleaned?
 (No) _____
 - 9b. Filter pack cleaned? Material compatible?
 (N/A) No filter pack

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
 (N/A) Not to water
 - 10a. Screened interval documented?
 (N/A) No screen
 - 10b. Vertical lithology documented?
 (Yes) Geologist's log

WELL CONSTRUCTION AND COMPLETION SUMMARY

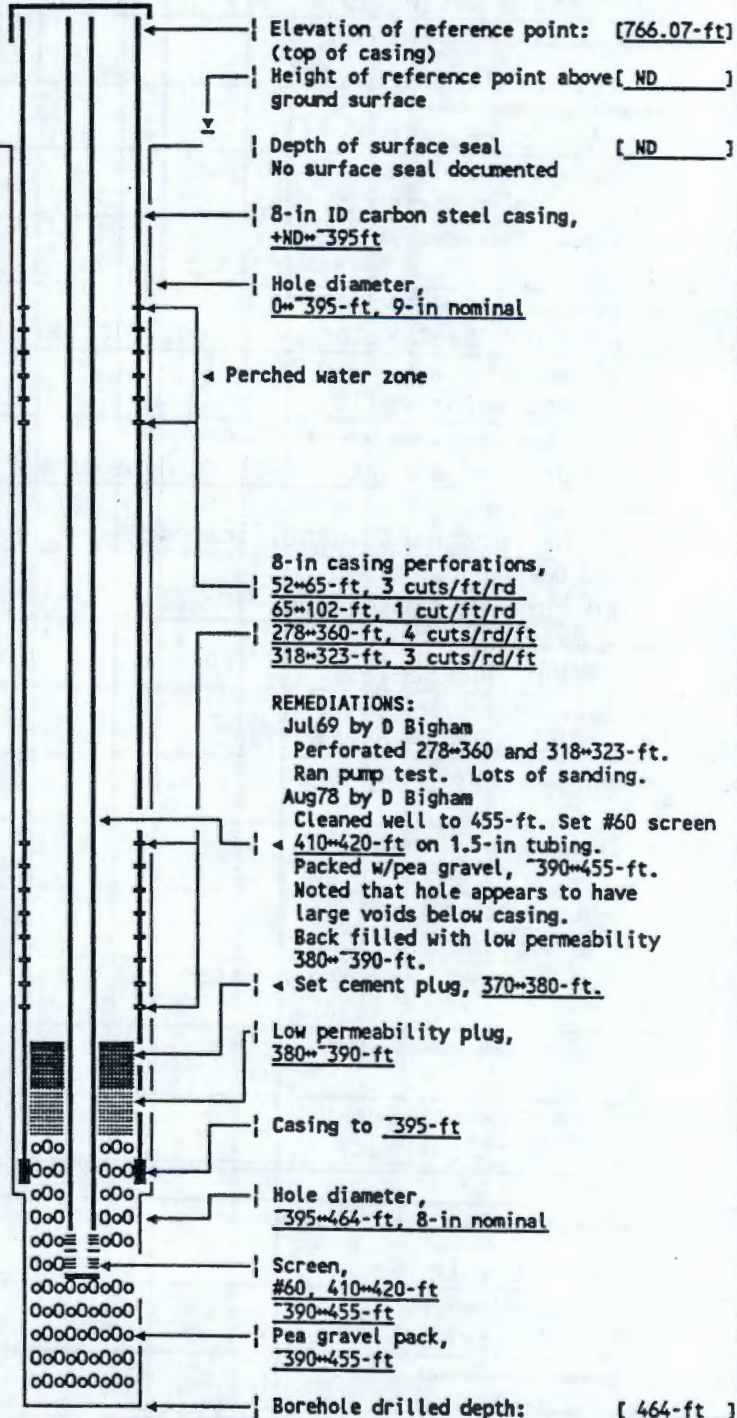
Drilling Method: <u>Cable tool</u>	Sample Method: <u>Hard tool (nom)</u>	WELL NUMBER: <u>699-43-104</u>	TEMPORARY WELL NO: _____
Drilling Fluid Used: <u>Water</u>	Additives Used: <u>Cable pieces</u>	Hanford	
Driller's Name: <u>H. Hatch</u>	WA State Lic Nr: <u>Not documented</u>	Coordinates: N/S <u>N 42,979</u>	E/W <u>W 104,298</u>
Drilling Company: <u>Hatch Drilling Co</u>	Company Location: <u>Pasco WA</u>	State Coordinates: N <u>448,013</u>	E <u>2,190,917</u>
Date Started: <u>10Oct57</u>	Date Complete: <u>04Nov57</u>	Start Card #: <u>Not documented</u>	T _____ R _____ S _____
		Elevation Ground surface: <u>Not documented</u>	

Depth to water: 320.0-ft 04Nov57
(Ground surface) 269-ft, 02Jun93

GENERALIZED Driller's
STRATIGRAPHY Log

0-4: SILT
4-125: Basalt GRAVEL
125-155: Brown sandy CLAY w/GRAVEL
155-165: SAND & GRAVEL particles
185-215: Cemented SAND & GRAVEL, gray
215-235: Coarse SAND & GRAVEL
235-250: Clean GRAVEL & SAND
250-270: SAND, GRAVEL & SILT
270-275: SAND & GRAVEL clean
275-280: SAND & GRAVEL w/SILT
280-304: SAND & GRAVEL clean
304-320: Sandy CLAY & GRAVEL
320-325: SAND-GRAVEL-SILT, loose
325-350: Yellow CLAY & GRAVEL
350-355: Brown sandy CLAY & basalt GRAVEL
355-375: Green sandy CLAY & basalt GRAVEL
375-380: Hard ROCK-black & some green
380-385: Mixed GRAVEL & CLAY
385-395: BASALT cuttings-some CLAY
395-400: BASALT cuttings
400-424: BASALT
424-455: Grey CLAY w/BASALT & SAND particles
455-458: Runny SAND & little CLAY
458-464: SOAPSTONE float
464 : Indications of BASALT

DRILLING NOTE:
Hit perched water @ 62-ft.
Apparently why original perforations were 52-102-ft.



Drawing By: RKL/6N43W104.ASB
Date : 11Oct93
Reference : HANFORD WELLS

DIAGRAMMATIC WELL DECOMMISSIONING PLAN			
Drilling Method: <u>Cable tool</u> Drilling Fluid Used: <u>Water</u> Driller's Name: <u>H. Hatch</u> Drilling Company: <u>Hatch Drilling Co</u> Date Started: <u>100Oct57</u>	Sample Method: <u>Hard tool (nom)</u> Additives Used: <u>Cable pieces</u> WA State Lic Nr: <u>Not documented</u> Company Location: <u>Pasco WA</u> Date Complete: <u>04Nov57</u>	WELL NUMBER: <u>699-43-104</u> Hanford Coordinates: N/S <u>N 42,979</u> E/W <u>W 104,298</u> State Coordinates: N <u>448,013</u> E <u>2,190,917</u> Start Card #: <u>Not documented</u> T <u> </u> R <u> </u> S <u> </u> Elevation Ground surface: <u>Not documented</u>	
Depth to water: <u>320.0-ft 04Nov57</u> (Ground surface) <u>269-ft, 02Jun93</u>			
DIAGRAMMATIC DECOMMISSIONING PLAN (Depths from ground surface)			
[1] Pressure grout w/neat cement, 370~464-ft through existing 1.5-in tubing. [2] Cut 1.5-in tubing @ 370-ft and remove. [3] Perforate, 260~280, place sand fill 265~370-ft; bentonite crumbles, 260~265-ft. [4] Perforate 200~260-ft and pressure grout 200~260-ft w/neat cement. [5] Perforate 125~200-ft and pressure grout 125~200-ft w/neat cement. [6] Place sand plug 55~125-ft, [7] Perforate 3~52-ft; place bentonite crumbles, 50~55-ft; pressure grout w/neat cement, 3~55-ft. [8] Cut casing @ 3-ft, place concrete or metal cap, fill to grade and compact.	<div style="position: absolute; top: 240px; left: 570px;"> Elevation of reference point: <u>[766.07-ft]</u> (top of casing) Height of reference point above <u>[ND]</u> ground surface Depth of surface seal <u>[ND]</u> No surface seal documented 8-in ID carbon steel casing, <u>+ND~395ft</u> Hole diameter, 9-in nominal <u>0~395-ft</u> Perched water zone 8-in casing perforations, <u>52~65-ft, 3 cuts/ft/rd</u> <u>65~102-ft, 1 cut/ft/rd</u> <u>278~360-ft, 4 cuts/rd/ft</u> <u>318~323-ft, 3 cuts/rd/ft</u> REMEDIATIONS: Jul69 by D Bigham Perforated 278~360 and 318~323-ft. Ran pump test. Lots of sanding. Aug78 by D Bigham Cleaned well to 455-ft. Set #60 screen 410~420-ft on 1.5-in tubing. Packed w/pea gravel, 390~455-ft. Noted that hole appears to have large voids below casing. Back filled with low permeability 380~390-ft. Set cement plug, 370~380-ft. Low permeability plug, 380~390-ft Casing to <u>395-ft</u> Hole diameter, 8-in nominal <u>395~464-ft</u> Screen., #60, 410~420-ft <u>390~455-ft</u> Pea gravel pack, <u>390~455-ft</u> Depth bottom of borehole: <u>[464-ft]</u> </div>		
Drawing By: <u>RKL/6N43W104.PLN</u> Date : <u>17Aug93</u> Reference : <u>HANFORD WELLS</u>			

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	1. Well No. 699-43-104 Page 1 of 2
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2. Has a need for use of the well been identified and documented?
[ND] Well identified for decommissioning as a part of ALE cleanup

3. Is well presently in use?
[Yes] WHC and PNL water levels

4. Is casing sealed in accordance with IAW WAC 173-160-075?
[No] No surface or annular seal

4a. Natural barriers preserved?
[No] Perched water zone perforated

4b. Aquifer/strata penetrated permanently sealed?
[No] No plugs or seals documented

4c. Annulus sealed against surface water?
[No] No surface or annular seal

4d. Casing overlap more than 8 ft; packed and grouted?
[N/A] Has 1.5-in piezometer

5. If not in use, is well capped IAW WAC 173-160-085?
[N/A]

6. Is design and construction IAW WAC 173-160-500?
[No] Does not meet water well construction standards

6a. Saturated formation/aquifers not connected?
[No] Perched, unconfined and semiconfined may be connected

6b. Cuttings/development water handled IAW WAC 173-303?
[N/A] Drilled before effective date of WAC 173-303

6c. Well properly identified?
[ND] Not documented

7. Is surface protection IAW WAC 173-160-510?
[No] No surface protection

7a. Well capped and protected?
[ND] Assumed capped and locked

7b. Protective posts, surface pad or cover installed?
[No]

7c. Surface protection waived or variance obtained?
[N/A]

7d. Is existing surface protection damaged?
[ND] Not documented

8. Are casing materials IAW 173-160-520?
[ND] Casing is carbon steel

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
[ND] Not documented, assumed not

9a. Drill rig/equipment casing/screen cleaned?
[ND] Not documented, assumed not

9b. Filter pack cleaned? Material compatible?
[N/A] No filter pack

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
[ND] Not documented

10a. Screened interval documented?
[N/A] No screen

10b. Vertical lithology documented?
[Yes] Driller's log

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	1. Well No. <u>699-43-104</u> Page 2 of 2
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11. Is design and construction IAW WAC 173-160-540?

(No) Does not meet requirements

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?

(ND) Has screen, type not documented

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.

(Yes) Filter pack is gravel pack

11c. Well has been developed.

(ND) Not documented

11d. Annulus grouted with bentonite or bentonite/cement mixture.

(No) No annular seal

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.

(ND) Not documented

13. Data Sources Used:

Logs:

Driller's: Hathc, Hatch Drilling Date: 11/05/57 Company: _____

Geologist: N/A Date: _____ Company: _____

Geophysical: N/A Date: _____ Company: _____

Television: N/A Date: _____ Company: _____

Publications: Title, Author, Date

HANFORD WELLS, V. L. McGhan, June 1989

Databases:

WHC GWWS

Field Check: N/A Date: _____ Company: _____

Other: _____

14. Comments: Identify evaluation criteria addressed by number:

[15] Well does not meet monitoring well criteria. Well interconnects aquifers.

15. Status

Well is acceptable for intended use (No) No seals/has interconnection

Well is acceptable for intended use if variance is granted (No) _____

Rehabilitation required to continue intended use (No) _____

Remediation required to achieve intended use (Yes) Surface seal/reduce interval

Decommission, well is unneeded or cannot be remediated (Yes) Required for ALE cleanup

Other () _____

16. Status Recommendation

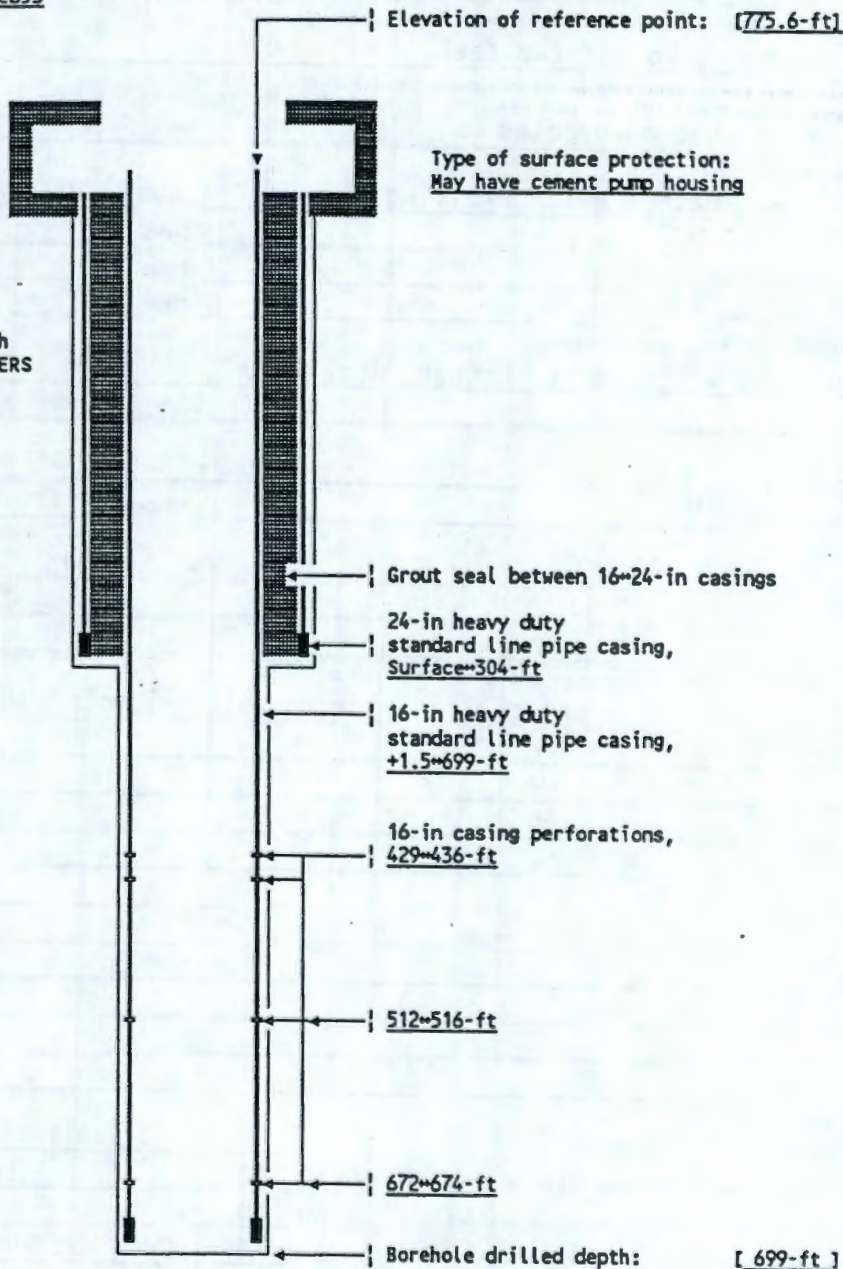
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/29/93

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling	Sample	WELL	TEMPORARY PSN 82
Method: <u>Cable tool</u>	Method: <u>Hard tool</u>	NUMBER: <u>699-79-104</u>	WELL NO: <u>Well-515</u>
Drilling	Additives	Hanford	
Fluid Used: <u>Not documented</u>	Used: <u>Not documented</u>	Coordinates: <u>N/S N 79,000</u>	<u>E/W W 104,000</u>
Driller's	WA State	State	
Name: <u>Not documented</u>	Lic Nr: <u>Not documented</u>	Coordinates: <u>N 484,035</u>	<u>E 2,191,122</u>
Drilling	Company	Start	
Company: <u>Strasser Drilling Co</u>	Location <u>Portland, OR</u>	Card #: <u>Not documented</u>	<u>T14N R25E S31M1</u>
Date	Date	Elevation	
Started: <u>Not documented</u>	Complete: <u>Feb53</u>	Ground surface: <u>775.0-ft Estimated</u>	

Depth to water: 375.7-ft 10Feb53GENERALIZED Driller's
STRATIGRAPHY Log

0~5: TOPSOIL
 5~37: Loose black SAND
 37~60: Gravelly SAND
 60~130: Coarse GRAVELS
 w/COBBLES & BOULDERS
 130~166: Clayey GRAVEL
 166~219: Brown & black SAND
 219~294: Clayey SAND
 294~340: Sandy GRAVEL
 cemented in part with
 some COBBLES & BOULDERS
 340~429: Clayey sandy GRAVEL
 429~450: Sandy GRAVEL
 with littel CLAY
 450~512: Clayey sandy GRAVEL
 512~516: Sandy GRAVEL
 516~672: Sandy clayey GRAVEL
 672~684: Sandy GRAVEL with
 very little CLAY
 684~699: Clayey sandy GRAVEL



Drawing By: RKL/6N79W104.ASB
 Date: 02Nov93
 Reference: COE 71-05-37 27Feb57

DIAGRAMMATIC WELL DECOMMISSIONING PLAN			
Drilling Method: <u>Cable tool</u> Drilling Fluid Used: <u>Not documented</u> Driller's Name: <u>Not documented</u> Drilling Company: <u>Strasser Drilling Co</u> Location <u>Portland, OR</u> Date Started: <u>Not documented</u> Complete: <u>Feb53</u>	Sample Method: <u>Hard tool</u> Additives Used: <u>Not documented</u> WA State Lic Nr: <u>Not documented</u> Company Date Complete: <u>Feb53</u>	WELL NUMBER: <u>699-79-104</u> Hanford Coordinates: <u>N/S N 79,000</u> <u>E/W W 104,000</u> State Coordinates: <u>N 484,035</u> <u>E 2,191,122</u> Start Card #: <u>Not documented</u> <u>T14N</u> <u>R25E</u> <u>S31M1</u> Elevation Ground surface (ft): <u>775.0</u>	TEMPORARY PSN 82 WELL NO: <u>Well-515</u>
Depth to water: <u>375.7-ft 10Feb53</u>			
DIAGRAMMATIC DECOMMISSIONING PLAN (Depths from ground surface)			
[1] Clean well to bottom. [2] Perforate 305~695-ft and pressure grout in approximately 4 stages. [3] Fill inside of 16-in casing to w/ neat cement to ~ 3-ft. [4] Remove any pump structure and pad. Cut casing @ 3-ft or more, place concrete or metal cap, fill to grade and compact.			
Elevation of reference point: <u>[775.6-ft]</u> Type of surface protection: <u>May have cement pump housing</u>			
Grout seal between 16~24-in casings 24-in casing surface~304-ft (Heavy duty standard line pipe) 16-in casing, +1.5~699-ft (Heavy duty standard line pipe) Perforated, 429~436-ft Perforated, 512~516-ft Perforated 672~674-ft Depth bottom of borehole: <u>[699-ft]</u>			
Drawing By: <u>RKL/6N79W104.PLN</u> Date: <u>11Jun93</u> Reference: _____			

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	<div style="border: 1px solid black; padding: 2px;">1. Well No. <u>699-79-104</u></div> <div style="border: 1px solid black; padding: 2px; text-align: center;">Page 1 of 2</div>
<p>2. Has a need for use of the well been identified and documented? [<u>No</u>] <u>No documented use</u></p> <p>3. Is well presently in use? [<u>No</u>] <u>Well is abandoned, but has not been decommissioned</u></p> <p>4. Is casing sealed in accordance with IAW WAC 173-160-075? [<u>Yes</u>] <u>Casings are sealed, see attached construction drawing</u></p> <p>4a. Natural barriers preserved? [<u>Yes</u>] <u>See drawing</u></p> <p>4b. Aquifer/strata penetrated permanently sealed? [<u>N/A</u>] <u>Well does not penetrate basalt confined aquifers</u></p> <p>4c. Annulus sealed against surface water? [<u>Yes</u>] <u>Has grouted entrance casing to 304-ft</u></p> <p>4d. Casing overlap more than 8 ft; packed and grouted? [<u>Yes</u>] <u>See drawing</u></p> <p>5. If not in use, is well capped IAW WAC 173-160-085? [<u>ND</u>] <u>Capping method not documented</u></p> <p>6. Is design and construction IAW WAC 173-160-500? [<u>N/A</u>] <u>Well is not a resource protection well</u></p> <p>6a. Saturated formation/aquifers not connected? [<u>N/A</u>] <u>Well is water well</u></p> <p>6b. Cuttings/development water handled IAW WAC 173-303? [<u>N/A</u>] <u>Drilled before applicable date of WAC 173-303</u></p> <p>6c. Well properly identified? [<u>N/A</u>] <u>Well has no permanent identification</u></p> <p>7. Is surface protection IAW WAC 173-160-510? [<u>N/A</u>] <u>Well is not resource protection well</u></p> <p>7a. Well capped and protected? [<u>N/A</u>] _____</p> <p>7b. Protective posts, surface pad or cover installed? [<u>N/A</u>] _____</p> <p>7c. Surface protection waived or variance obtained? [<u>N/A</u>] _____</p> <p>7d. Is existing surface protection damaged? [<u>N/A</u>] _____</p> <p>8. Are casing materials IAW 173-160-520? [<u>N/A</u>] _____</p> <p>9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530? [<u>N/A</u>] _____</p> <p>9a. Drill rig/equipment casing/screen cleaned? [<u>N/A</u>] _____</p> <p>9b. Filter pack cleaned? Material compatible? [<u>N/A</u>] _____</p> <div style="border: 1px solid black; padding: 2px; margin-top: 5px;">RCRA/CERCLA MONITORING WELL?</div> <p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>N/A</u>] _____</p> <p>10a. Screened interval documented? [<u>N/A</u>] <u>No screen</u></p> <p>10b. Vertical lithology documented? [<u>Yes</u>] <u>Driller's Log</u></p>	

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST		1. Well No. <u>699-79-104</u>
		Page 2 of 2

11. Is design and construction IAW WAC 173-160-540?

[N/A] Well is not resource protection well

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?

[N/A]

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.

[N/A]

11c. Well has been developed.

[N/A]

11d. Annulus grouted with bentonite or bentonite/cement mixture.

[N/A]

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.

[N/A]

13. Data Sources Used:

Logs:

Driller's: <u>Strasser Drilling Co</u>	Date: <u>02/28/53</u>	Company: _____
Geologist: <u>N/A</u>	Date: _____	Company: _____
Geophysical: <u>N/A</u>	Date: _____	Company: _____
Television: <u>N/A</u>	Date: _____	Company: _____

Publications: Title, Author, Date

HANFORD WELLS, V. L. McGhan, June 1989

Databases:

N/A

Field Check: N/A Date: _____ Company: _____

Other: _____

14. Comments: Identify evaluation criteria addressed by number:

[15] Well is not in use and has no documented use. Decommissioning is recommended. See attached diagrammatic well decommissioning plan.

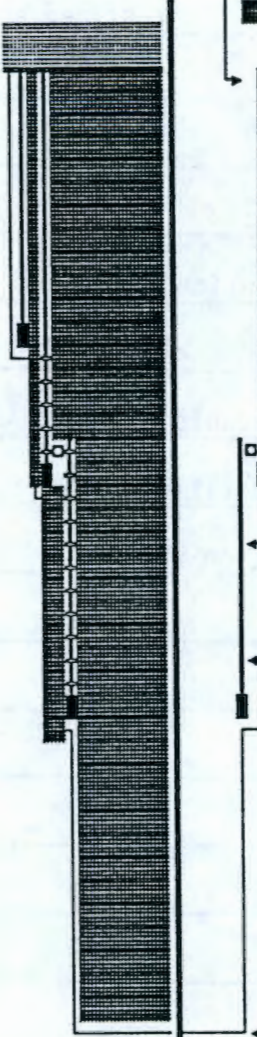
15. Status

Well is acceptable for intended use	[<u>No</u>]	<u>Rehabilitation required</u>
Well is acceptable for intended use if variance is granted	[<u>N/A</u>]	_____
Rehabilitation required to continue intended use	[<u>Yes</u>]	<u>Cleanout/redevelop</u>
Remediation required to achieve intended use	[<u>No</u>]	<u>Construction acceptable</u>
Decommission, well is unneeded or cannot be remediated	[<u>Yes</u>]	<u>Well is unneeded</u>
Other	[<u>N/A</u>]	_____

16. Status Recommendation

Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/21/93

WELL CONSTRUCTION AND COMPLETION SUMMARY AS-BUILT			
Drilling Method: <u>Cable tool</u> Drilling Fluid Used: <u>Not documented</u> Driller's Name: <u>R. J. Strasser (?)</u> Company: <u>Strasser Drilling Co</u> Date Started: <u>Not documented</u>	Sample Method: <u>Hard tool</u> Additives Used: <u>Not documented</u> WA State Lic Nr: <u>Not documented</u> Company Location <u>Portland, OR</u> Date Complete: <u>Not documented</u>	WELL NUMBER: <u>699-86-95</u> Hanford Coordinates: <u>N/S N 86,000</u> <u>E/W W 95,000</u> State Coordinates: <u>N 491,058</u> <u>E 2,200,105</u> Start Card #: <u>Not documented</u> <u>T14N R25E 28E1</u> Elevation Ground surface: <u>871-ft Estimated</u>	
Depth to water: <u>-483-ft Not documented</u>			
GENERALIZED Driller's STRATIGRAPHY Log 0-16: Coarse SAND 16-33: Coarse SAND- some GRAVEL 33-46: SAND 46-51: SAND, some GRAVEL 51-69: SAND w/CLAY binder 69-123: Packed SAND, some GRAVEL 123-142: SAND w/CLAY binder 142-149: SAND & GRAVEL 149-206: Dirty SAND, CLAY binder 206-215: Packed SAND 215-219: Dirty SAND 219-227: SAND & GRAVEL 227-236: SAND w/CLAY binder 236-249: Packed SAND 249-331: Dirty SAND 331-341: SAND, some GRAVEL 341-354: Fine brown SAND 354-369: SAND, some large GRAVEL 369-396: SAND & GRAVEL 396-417: Dirty SAND 417-423: SAND, some GRAVEL 423-483: SAND, w/GRAVEL >>6-in 483-511: SAND & GRAVEL (Water bearing) 511-538: SAND w/CLAY binder coated with blue clay, 538-547: Cemented GRAVEL 547-569: SAND & GRAVEL (Water bearing) 569-577: SAND, GRAVEL & CLAY 577-593: GRAVEL, BOULDERS & CLAY 593-607: SAND & GRAVEL 607-616: Large GRAVEL, SAND & SILT 616-623: Cemented GRAVEL 623-648: GRAVEL & CLAY		<div style="text-align: right;"> Elevation of reference point: <u>-873-ft</u> </div> <div style="margin-top: 20px;"> NOTE: Construction details not documented but assumed to similar to other wells of this depth. Type of surface protection: <u>Not documented</u> </div> <div style="margin-top: 20px;"> 20 or 24-in casing Assumed surface-Not documented Cement grout assumed </div> <div style="margin-top: 20px;"> 16-in casing, Assumed surface-Not documented </div> <div style="margin-top: 20px;"> Lead packer assumed at top of 12-in liner </div> <div style="margin-top: 20px;"> 12-in liner w/drive shoe assumed </div> <div style="margin-top: 20px;"> No perforations documented </div> <div style="margin-top: 20px; text-align: right;"> Borehole drilled depth: <u>[648-ft]</u> </div>	
Drawing By: <u>RKL/6N86W95-ASB</u> Date: <u>02Nov93</u> Reference: <u>COE 71-05-37 27Feb57</u>			

DIAGRAMMATIC WELL DECOMMISSIONING PLAN			
Drilling Method: <u>Cable tool</u> Drilling Fluid Used: <u>Not documented</u> Driller's Name: <u>R. J. Strasser (?)</u> Company: <u>Strasser Drilling Co</u> Date Started: <u>Not documented</u>	Sample Method: <u>Hard tool</u> Additives Used: <u>Not documented</u> WA State Lic Nr: <u>Not documented</u> Company Location: <u>Portland, OR</u> Date Complete: <u>Not documented</u>	WELL NUMBER: <u>699-86-95</u> Hanford Coordinates: <u>N/S W 86,000</u> State Coordinates: <u>N 491,058</u> Card #: <u>Not documented</u> Elevation Ground surface (ft): <u>871-ft</u>	TEMPORARY WELL NO: <u>PSN H83C</u> E/W W <u>95,000</u> E <u>2,200,105</u> T14N R25E 28E1
Depth to water: <u>~483-ft Not documented</u> DIAGRAMMATIC DECOMMISSIONING PLAN (Depths from ground surface)		Elevation of reference point: <u>~873-ft</u> NOTE: Construction details not documented but assumed to be similar to other wells of this depth. Type of surface protection: <u>Not documented</u>	
[1] Clean out to bottom. [2] Run TV with verified depth readings to determine as-built condition and diameters. [3] Grout open hole section w/ neat cement in <100-ft lifts. [4] Perforate and grout liners as determined in <100-ft stages to refusal of perforator. [5] Fill upper casing to bottom of pump structure w/ neat cement. [6] Remove pump structure and pad, place metal or concrete cap, fill to grade and compact.			
Drawing By: <u>RKL/6N86W95.PLN</u> Date: <u>17Aug93</u> Reference: _____			

RESOURCE PROTECTION GROUNDWATER WELL
STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-86-95

Page 1 of 2

2. Has a need for use of the well been identified and documented?
(No) No documented use
3. Is well presently in use?
(No) Well is abandoned, but has not been decommissioned
4. Is casing sealed in accordance with IAW WAC 173-160-0757
(ND) Construction not well documented
- 4a. Natural barriers preserved?
(ND) _____
- 4b. Aquifer/strata penetrated permanently sealed?
(ND) Well does not penetrate basalt confined aquifers
- 4c. Annulus sealed against surface water?
(ND) _____
- 4d. Casing overlap more than 8 ft; packed and grouted?
(ND) _____
5. If not in use, is well capped IAW WAC 173-160-0857
(ND) Capping method not documented
6. Is design and construction IAW WAC 173-160-5007
(N/A) Well is not a resource protection well
- 6a. Saturated formation/aquifers not connected?
(N/A) Well is water well
- 6b. Cuttings/development water handled IAW WAC 173-3037
(N/A) Well drilled before applicable date of WAC 173-303
- 6c. Well properly identified?
(No) Well has no permanent identification
7. Is surface protection IAW WAC 173-160-5107
(N/A) Well is not resource protection well
- 7a. Well capped and protected?
(N/A) _____
- 7b. Protective posts, surface pad or cover installed?
(N/A) _____
- 7c. Surface protection waived or variance obtained?
(N/A) _____
- 7d. Is existing surface protection damaged?
(N/A) _____
8. Are casing materials IAW 173-160-5207
(N/A) _____
9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-5307
(N/A) _____
- 9a. Drill rig/equipment casing/screen cleaned?
(N/A) _____
- 9b. Filter pack cleaned? Material compatible?
(N/A) _____

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
(N/A) _____
- 10a. Screened interval documented?
(N/A) No screen
- 10b. Vertical lithology documented?
(Yes) Driller's log

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RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST		1. Well No. 699-86-95
		Page 2 of 2

11. Is design and construction IAW WAC 173-160-540?

(N/A) Well is not resource protection well

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?

(N/A)

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.

(N/A)

11c. Well has been developed.

(N/A)

11d. Annulus grouted with bentonite or bentonite/cement mixture.

(N/A)

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.

(N/A)

13. Data Sources Used:

Logs:

Driller's: Strasser Drilling, Portland OR Date: ND Company: _____

Geologist: N/A Date: _____ Company: _____

Geophysical: N/A Date: _____ Company: _____

Television: N/A Date: _____ Company: _____

Publications: Title, Author, Date

HANFORD WELLS, V. L. McGhan, June 1989

Databases:

N/A

Field Check: N/A Date: _____ Company: _____

Other:

N/A

14. Comments: Identify evaluation criteria addressed by number:

[15] Well is not in use and has no documented need for use.

Decommissioning is recommended. See attached diagrammatic well

decommissioning plan.

15. Status

Well is acceptable for intended use (No) Rehabilitation required

Well is acceptable for intended use if variance is granted (No) Rehabilitation required

Rehabilitation required to continue intended use (Yes) Cleanout/redevelop

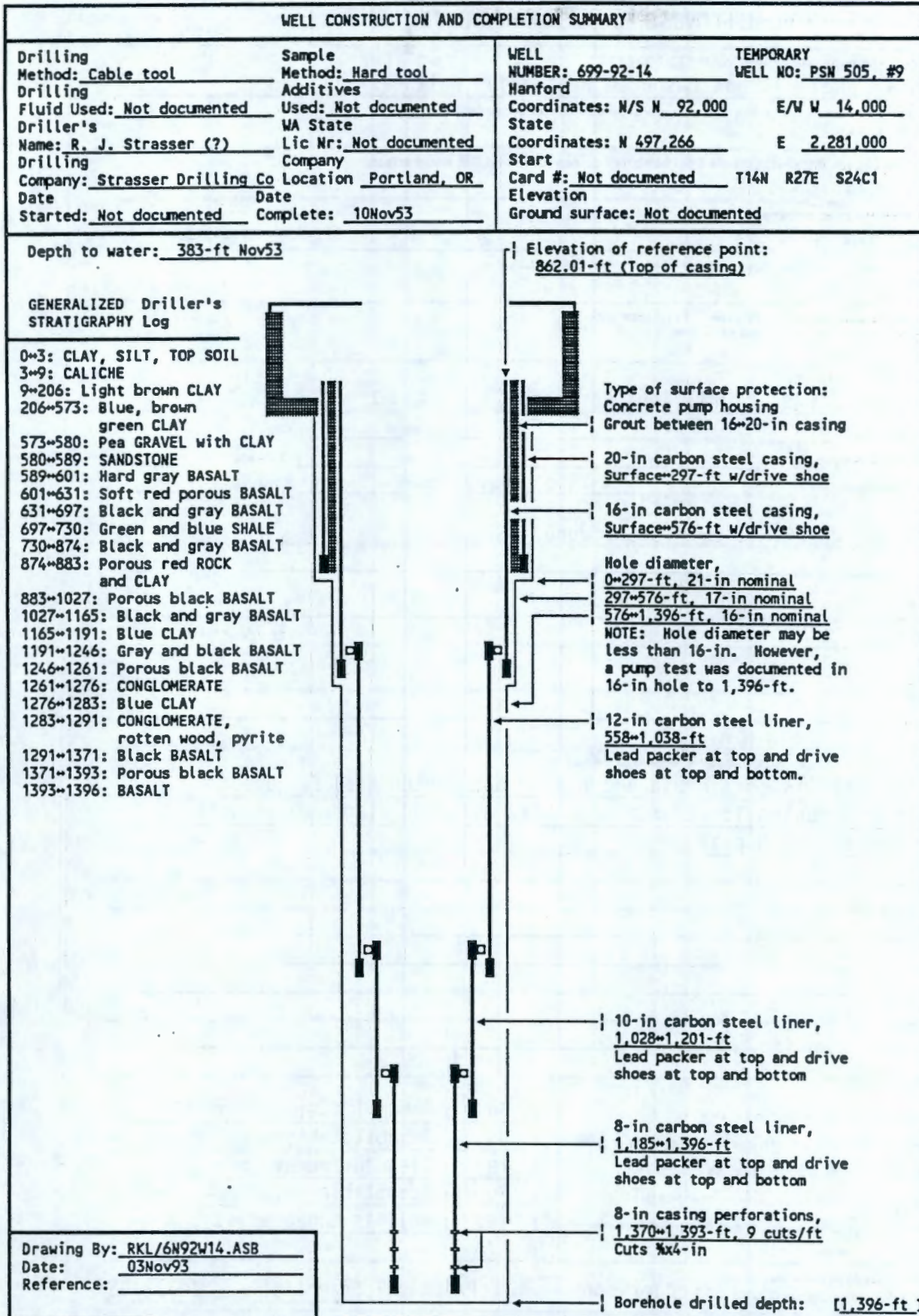
Remediation required to achieve intended use (No) Acceptable water well const.

Decommission, well is unneeded or cannot be remediated (Yes) Well is unneeded

Other (N/A)

16. Status Recommendation

Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/21/93



DIAGRAMMATIC WELL DECOMMISSIONING PLAN			
Drilling Method: <u>Cable tool</u> Drilling Fluid Used: <u>Not documented</u> Driller's Name: <u>R. J. Strasser (?)</u> Company: <u>Strasser Drilling Co</u> Date Started: <u>Not documented</u> Date Complete: <u>10Nov53</u>	Sample Method: <u>Hard tool</u> Additives Used: <u>Not documented</u> WA State Lic Nr: <u>Not documented</u> Company Location: <u>Portland, OR</u>	WELL NUMBER: <u>699-92-14</u> Hanford State Coordinates: <u>N/S N 92,000</u> <u>E/W W 14,000</u> Start Card #: <u>Not documented</u> Elevation T14N R27E S24C1 Ground surface (ft): <u>Not documented</u>	TEMPORARY WELL NO: <u>PSN 505, #9</u>
Depth to water: <u>383-ft Nov53</u> DIAGRAMMATIC DECOMMISSIONING PLAN (Depths from ground surface)		Elevation of reference point: <u>862.01-ft (Top of casing)</u>	
<p>[1] Clean out well. Run TV.</p> <p>[2] Perforate 8-in liner, 1,190-1,395-ft. Grout w/neat cement in 2-3 stages. Hole size may not be 16-in, therefore cement volume and fill-up must be carefully monitored.</p> <p>[3] Perforate 10-in liner, 1,030-1,200-ft. Grout w/neat cement in 2-3 stages.</p> <p>[4] Perforate 12-in liner, 560-1,035-ft. Grout w/neat cement in 3-4 stages.</p> <p>[5] Perforate and pressure grout 16-in casing 300-555-ft in 2-3 stages.</p> <p>[6] Fill 16-in casing from bottom of pump structure to 300-ft using tremmie pipe.</p> <p>[7] Remove pump structure and pad. Place metal or concrete cap, fill to grade and compact.</p>		<p>Type of surface protection: <u>Concrete pump housing</u> <u>Grout between 16-20-in casing</u></p> <p>20-in casing, surface=297-ft Carbon steel w/steel drive shoe Concrete grout</p> <p>16-in casing, surface=576-ft carbon steel w/steel drive shoe</p> <p>Lead packer at top of 12-in liner</p> <p>12-in liner, 558-1,038-ft drive shoes at top and bottom of liner</p> <p>Lead packer at top of 10-in liner</p> <p>10-in liner, 1,028-1,201-ft drive shoes at top and bottom of liner</p> <p>Lead packer at top of 8-in liner</p> <p>8-in liner, 1,185-1,396-ft drive shoes at top and bottom of liner</p> <p>Perforated 1,370-1,393-ft 9 cuts/ft 3/8x4-in</p> <p>Bottom of borehole 1,396-ft</p>	
Drawing By: <u>RKL/6H92W14.PLN</u> Date: <u>17Aug93</u> Reference: _____			

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	1. Well No. 699-92-14 Page 1 of 2				
<p>2. Has a need for use of the well been identified and documented? [<u>No</u>] <u>No documented use</u></p> <p>3. Is well presently in use? [<u>No</u>] <u>Well is abandoned, but has not been decommissioned</u></p> <p>4. Is casing sealed in accordance with IAW WAC 173-160-075? [<u>No</u>] <u>Has surface seal, no downhole seal, see attached as-built</u></p> <p>4a. Natural barriers preserved? [<u>ND</u>] <u>No downhole annular seals</u></p> <p>4b. Aquifer/strata penetrated permanently sealed? [<u>No</u>] <u>See 4a above</u></p> <p>4c. Annulus sealed against surface water? [<u>Yes</u>] <u>Has surface seal and concrete pump housing</u></p> <p>4d. Casing overlap more than 8 ft; packed and grouted? [<u>Yes</u>] <u>Casing overlap >8-ft, has lead packers, no grout</u></p> <p>5. If not in use, is well capped IAW WAC 173-160-085? [<u>Yes</u>] <u>Has metal cap inside housing</u></p> <p>6. Is design and construction IAW WAC 173-160-500? [<u>N/A</u>] <u>Not resource protection well</u></p> <p>6a. Saturated formation/aquifers not connected? [<u>N/A</u>] _____</p> <p>6b. Cuttings/development water handled IAW WAC 173-303? [<u>N/A</u>] _____</p> <p>6c. Well properly identified? [<u>No</u>] <u>No permanent identification</u></p> <p>7. Is surface protection IAW WAC 173-160-510? [<u>N/A</u>] _____</p> <p>7a. Well capped and protected? [<u>N/A</u>] _____</p> <p>7b. Protective posts, surface pad or cover installed? [<u>N/A</u>] _____</p> <p>7c. Surface protection waived or variance obtained? [<u>N/A</u>] _____</p> <p>7d. Is existing surface protection damaged? [<u>N/A</u>] _____</p> <p>8. Are casing materials IAW 173-160-520? [<u>N/A</u>] _____</p> <p>9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530? [<u>N/A</u>] _____</p> <p>9a. Drill rig/equipment casing/screen cleaned? [<u>N/A</u>] _____</p> <p>9b. Filter pack cleaned? Material compatible? [<u>N/A</u>] _____</p> <tr><td colspan="2">RCRA/CERCLA MONITORING WELL?</td></tr> <tr><td colspan="2"><p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>N/A</u>] _____</p><p>10a. Screened interval documented? [<u>N/A</u>] <u>No screen</u></p><p>10b. Vertical lithology documented? [<u>Yes</u>] <u>Driller's log</u></p></td></tr>		RCRA/CERCLA MONITORING WELL?		<p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>N/A</u>] _____</p> <p>10a. Screened interval documented? [<u>N/A</u>] <u>No screen</u></p> <p>10b. Vertical lithology documented? [<u>Yes</u>] <u>Driller's log</u></p>	
RCRA/CERCLA MONITORING WELL?					
<p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>N/A</u>] _____</p> <p>10a. Screened interval documented? [<u>N/A</u>] <u>No screen</u></p> <p>10b. Vertical lithology documented? [<u>Yes</u>] <u>Driller's log</u></p>					

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	1. Well No. <u>699-92-14</u> Page 2 of 2
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11. Is design and construction IAW WAC 173-160-5407
 (N/A)

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
 (N/A)

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
 (N/A)

11c. Well has been developed.
 (N/A)

11d. Annulus grouted with bentonite or bentonite/cement mixture.
 (N/A)

12. Does water sample meet established acceptance criteria?
 Sample is less than 5 NTU and sand free.
 (N/A)

13. Data Sources Used:

Logs:

Driller's: Strasser Drilling Portland OR Date: 11/10/53 Company: _____

Geologist: N/A Date: _____ Company: _____

Geophysical: N/A Date: _____ Company: _____

Television: N/A Date: _____ Company: _____

Publications: Title, Author, Date
HANFORD WELLS, V. L. McGhan, June 1989

Databases:
N/A

Field Check: WHC GWWS Date: 07/08/93 Company: _____

Other: _____

14. Comments: Identify evaluation criteria addressed by number:
[15] Well is not in use and has no documented need for use.
Decommissioning is recommended. See attached diagrammatic well
decommissioning plan.

15. Status

Well is acceptable for intended use	(<u>No</u>)	Rehabilitation required
Well is acceptable for intended use if variance is granted	(<u>No</u>)	Rehabilitation required
Rehabilitation required to continue intended use	(<u>Yes</u>)	Cleanout/redevelop
Remediation required to achieve intended use	(<u>No</u>)	Acceptable water well const.
Decommission, well is unneeded or cannot be remediated	(<u>Yes</u>)	Well is unneeded
Other	(<u>N/A</u>)	

16. Status Recommendation
 Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/21/93

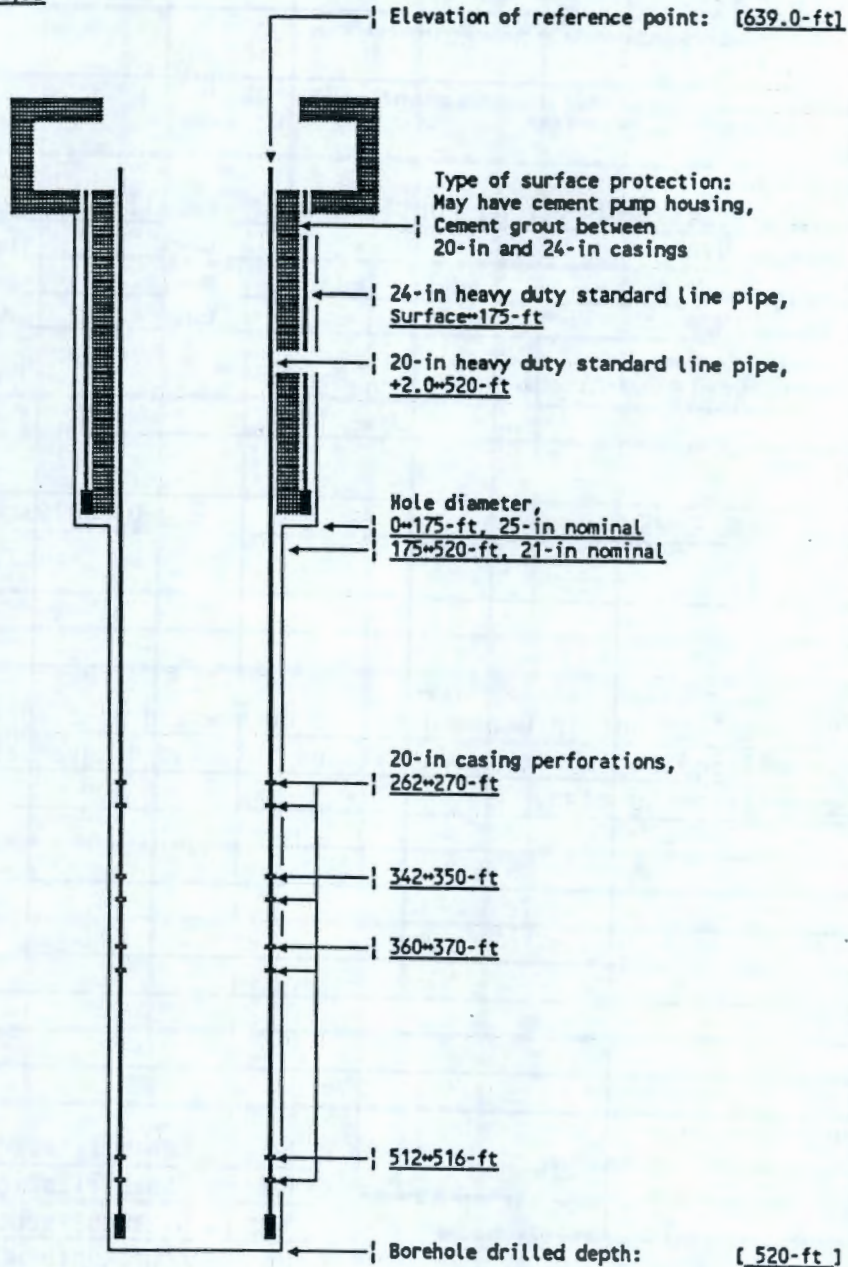
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: <u>Cable tool</u>	Sample Method: <u>Hard tool</u>	WELL NUMBER: <u>699-93-93</u>	TEMPORARY PSN H 83 L
Drilling Fluid Used: <u>Not documented</u>	Additives Used: <u>Not documented</u>	Hanford	WELL NO: <u>Well-525</u>
Driller's Name: <u>Not documented</u>	WA State Lic Nr: <u>Not documented</u>	Coordinates: N/S <u>N 93,000</u>	E/W <u>W 93,000</u>
Drilling Company: <u>Strasser Drilling Co</u>	Company Location: <u>Portland, OR</u>	State Coordinates: N <u>498,000</u>	E <u>2,202,000</u>
Date Started: <u>Not documented</u>	Date Complete: <u>May53</u>	Start Card #: <u>Not documented</u>	T14N R24E S2181
		Elevation Ground surface: <u>637.0-ft Estimated</u>	

Depth to water: 240.0-ft 04May53

GENERALIZED Driller's STRATIGRAPHY Log

0~77: Fine gray SAND
77~147: Clayey SAND-sandy CLAY
147~153: Gray SAND
153~197: Clayey SAND-sandy CLAY
197~214: Sandy clayey GRAVEL
214~227: Cemented GRAVEL
227~245: Sandy clayey GRAVEL
245~251: Cemented GRAVEL
251~258: Sandy clayey GRAVEL
258~268: Cemented GRAVEL
268~288: Sandy gravelly CLAY
288~310: CLAY
310~325: Sandy GRAVEL
325~342: Light brown CLAY
342~345: Loose sandy GRAVEL
345~367: Sandy clayey GRAVEL
367~371: Cemented GRAVEL
371~378: Sandy clayey GRAVEL
378~407: Cemented GRAVEL
407~429: Yellow CLAY
429~453: Gravelly CLAY
453~480: Blue SHALE
480~506: Sandy CLAY
506~513: Sandy clayey GRAVEL
513~520: Cemented GRAVEL



Drawing By: RKL/6N93W93.ASB
Date: 03Nov93
Reference: COE 71-05-37 27Feb57

DIAGRAMMATIC WELL DECOMMISSIONING PLAN			
Drilling Method: <u>Cable tool</u> Drilling Fluid Used: <u>Not documented</u> Driller's Name: <u>Not documented</u> Drilling Company: <u>Strasser Drilling Co</u> Date Started: <u>Not documented</u>	Sample Method: <u>Hard tool</u> Additives Used: <u>Not documented</u> WA State Lic Nr: <u>Not documented</u> Company Location <u>Portland, OR</u> Date Complete: <u>May53</u>	WELL NUMBER: <u>699-93-93</u> Hanford Coordinates: <u>N/S N 93,000</u> State Coordinates: <u>N 498,000</u> Start Card #: <u>Not documented</u> Elevation Ground surface (ft): <u>637.0</u>	TEMPORARY PSN H 83 L WELL NO: <u>Well-525</u> E/W <u>N 93,000</u> E <u>2,202,000</u> T14N R24E S21B1
Depth to water: <u>240.0-ft 04May53</u> DIAGRAMMATIC DECOMMISSIONING PLAN (Depths from ground surface)			
[1] Clean out well, run TV. [2] Perforate 180-520-ft, and grout w/neat cement using tremmie pipe in 3-4 stages. [3] Fill inside of 20-in casing to bottom of pump structure w/neat cement. [4] Remove pump structure and pad. Place metal or concrete cap, fill to grade and compact.	<div style="position: absolute; top: 250px; right: 50px;"> Elevation of reference point: <u>[639.0-ft]</u> </div> <div style="position: absolute; top: 310px; right: 100px;"> Type of surface protection: <u>May have cement pump housing</u> </div> <div style="position: absolute; top: 400px; right: 100px;"> Grout seal between 20 and 24-in casings </div> <div style="position: absolute; top: 470px; right: 100px;"> 24-in casing, surface=175-ft (Heavy duty standard line pipe) 20-in casing +2.0-520-ft (Heavy duty standard line pipe) </div> <div style="position: absolute; top: 600px; right: 100px;"> Perforated, 262-270-ft Perforated, 342-350-ft Perforated, 360-370-ft Perforated 512-516-ft </div> <div style="position: absolute; top: 820px; right: 50px;"> Depth bottom of borehole: <u>[520-ft]</u> </div> <div style="position: absolute; top: 300px; left: 350px;"> [4] [3] [20] [2C] [2B] [2A] </div>		
NOTE: Order of work to be determined by field conditions.			
Drawing By: <u>RKL/6N93W93.PLN</u> Date: <u>18Aug93</u> Reference: _____			

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	<div style="border: 1px solid black; padding: 2px;">1. Well No. 699-93-93</div> <div style="border: 1px solid black; padding: 2px;">Page 1 of 2</div>				
<p>2. Has a need for use of the well been identified and documented? [<u>No</u>] <u>No documented use</u></p> <p>3. Is well presently in use? [<u>No</u>] <u>Well is abandoned, but has not been decommissioned</u></p> <p>4. Is casing sealed in accordance with IAW WAC 173-160-075? [<u>No</u>] <u>Has surface seal, no downhole seals, see attached as-built</u></p> <p>4a. Natural barriers preserved? [<u>ND</u>] <u>No downhole annular seals</u></p> <p>4b. Aquifer/strata penetrated permanently sealed? [<u>No</u>] <u>See 4a above</u></p> <p>4c. Annulus sealed against surface water? [<u>Yes</u>] <u>Has surface seal</u></p> <p>4d. Casing overlap more than 8 ft; packed and grouted? [<u>N/A</u>] <u>Surface seal casing grouted</u></p> <p>5. If not in use, is well capped IAW WAC 173-160-085? [<u>ND</u>] <u>Not documented</u></p> <p>6. Is design and construction IAW WAC 173-160-500? [<u>N/A</u>] <u>Not resource protection well</u></p> <p>6a. Saturated formation/aquifers not connected? [<u>N/A</u>] _____</p> <p>6b. Cuttings/development water handled IAW WAC 173-303? [<u>N/A</u>] _____</p> <p>6c. Well properly identified? [<u>No</u>] <u>No permanent identification</u></p> <p>7. Is surface protection IAW WAC 173-160-510? [<u>N/A</u>] _____</p> <p>7a. Well capped and protected? [<u>N/A</u>] _____</p> <p>7b. Protective posts, surface pad or cover installed? [<u>N/A</u>] _____</p> <p>7c. Surface protection waived or variance obtained? [<u>N/A</u>] _____</p> <p>7d. Is existing surface protection damaged? [<u>N/A</u>] _____</p> <p>8. Are casing materials IAW 173-160-520? [<u>N/A</u>] _____</p> <p>9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530? [<u>N/A</u>] _____</p> <p>9a. Drill rig/equipment casing/screen cleaned? [<u>N/A</u>] _____</p> <p>9b. Filter pack cleaned? Material compatible? [<u>N/A</u>] _____</p> <tr><td colspan="2"><div style="border: 1px solid black; padding: 2px;">RCRA/CERCLA MONITORING WELL?</div></td></tr> <tr><td colspan="2"><p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>N/A</u>] _____</p><p>10a. Screened interval documented? [<u>N/A</u>] _____</p><p>10b. Vertical lithology documented? [<u>Yes</u>] <u>Driller's log</u></p></td></tr>		<div style="border: 1px solid black; padding: 2px;">RCRA/CERCLA MONITORING WELL?</div>		<p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>N/A</u>] _____</p> <p>10a. Screened interval documented? [<u>N/A</u>] _____</p> <p>10b. Vertical lithology documented? [<u>Yes</u>] <u>Driller's log</u></p>	
<div style="border: 1px solid black; padding: 2px;">RCRA/CERCLA MONITORING WELL?</div>					
<p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>N/A</u>] _____</p> <p>10a. Screened interval documented? [<u>N/A</u>] _____</p> <p>10b. Vertical lithology documented? [<u>Yes</u>] <u>Driller's log</u></p>					

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST		1. Well No. 699-93-93
		Page 2 of 2
11. Is design and construction IAW WAC 173-160-5407 [<u>N/A</u>]		
11a. Screen commercially fabricated of material nonreactive to subsurface conditions? [<u>N/A</u>]		
11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen. [<u>N/A</u>]		
11c. Well has been developed. [<u>N/A</u>]		
11d. Annulus grouted with bentonite or bentonite/cement mixture. [<u>N/A</u>]		
12. Does water sample meet established acceptance criteria? Sample is less than 5 NTU and sand free. [<u>N/A</u>]		
13. Data Sources Used:		
Logs:		
Driller's: <u>Strasser Drilling Portland OR</u>	Date: <u>May53</u>	Company: _____
Geologist: <u>N/A</u>	Date: _____	Company: _____
Geophysical: <u>N/A</u>	Date: _____	Company: _____
Television: <u>N/A</u>	Date: _____	Company: _____
Publications: Title, Author, Date		
<u>HANFORD WELLS, V. L. McGhan, June 1989</u>		
Databases:		
<u>N/A</u>		
Field Check: <u>N/A</u>	Date: _____	Company: _____
Other:		

14. Comments: Identify evaluation criteria addressed by number:		
<u>[15] Well is not in use and has no documented need for use.</u>		
<u>Decommissioning is recommended. See attached diagrammatic well</u>		
<u>decommissioning plan.</u>		

15. Status		
Well is acceptable for intended use	[<u>No</u>]	<u>Rehabilitation required</u>
Well is acceptable for intended use if variance is granted	[<u>No</u>]	<u>Rehabilitation required</u>
Rehabilitation required to continue intended use	[<u>Yes</u>]	<u>Cleanout/redevelop</u>
Remediation required to achieve intended use	[<u>No</u>]	<u>Acceptable water well const.</u>
Decommission, well is unneeded or cannot be remediated	[<u>Yes</u>]	<u>Well is unneeded</u>
Other	[<u>N/A</u>]	_____
16. Status Recommendation		
Done By: Name: <u>R. K. Ledgerwood</u>	Title: <u>Principal Scientist</u>	Date: <u>10/21/93</u>

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WELL CONSTRUCTION AND COMPLETION SUMMARY			
Drilling Method: <u>Cable tool</u> Fluid Used: <u>Not documented</u> Driller's Name: <u>R. J. Strasser (?)</u> Company: <u>Strasser Drilling Co</u> Date Started: <u>Not documented</u>	Sample Method: <u>Hard tool</u> Additives Used: <u>Not documented</u> WA State Lic Nr: <u>Not documented</u> Company Location: <u>Portland, OR</u> Date Complete: <u>10May52</u>	WELL NUMBER: <u>699-107-79</u> Hanford Coordinates: <u>N/S W 107,000</u> State Coordinates: <u>N 512,000</u> Start Card #: <u>Not documented</u> Elevation: <u>T14N R25E S1D</u> Ground surface: <u>Not documented</u>	TEMPORARY WELL NO: <u>#2-PSN 410</u> <u>E/W W 78,890</u> <u>E 2,216,200</u>
Depth to water: <u>182 ft May52</u>		Has pump installed: <input checked="" type="checkbox"/>	
GENERALIZED Driller's STRATIGRAPHY Log		Elevation of reference point: <u>659.02 ft (Top of casing)</u>	
0-12: TOPSOIL, sandy SILT 12-21: CALICHE 21-63: GRAVEL 63-183: CLAY and sandy SHALE 183-249: Sandy CLAY (W) 249-252: CALICHE 252-355: SAND, CLAY and SHALE 355-625: BASALT, hard, gray 625-630: BASALT, broken (W) 630-663: Brown CLAY and BASALT(W) 663-680: BASALT with crevices 680-685: BASALT with CLAY layers 685-753: Porous BASALT 753-895: BASALT with CLAY layers 895-900: SAND (W) 900-906: SAND with BASALT layers 906-924: BASALT 924-938: White porous ROCK (W)		Type of surface protection: <u>Concrete pump housing</u> <u>Grout between 16-20 in casing</u> 20-in ID carbon steel casing, <u>Surface=198-ft w/steel drive shoe</u> 16-in ID carbon steel casing, <u>Surface=346-ft w/steel drive shoe</u> Hole diameter, <u>0-198-ft, 21-in nominal</u> <u>198-346-ft, 17-in nominal</u> <u>346-938-ft, 16-in nominal</u> NOTE: Hole diameter may be less than 16-in. However, a pump test was documented in 16-in hole to 938-ft. 12-in ID carbon steel liner, <u>334-491-ft</u> Lead packer at top, Drive shoe at bottom 10-in ID carbon steel liner, <u>481-636-ft</u> Lead packer at top, Drive shoe at bottom 10-in casing perforations, <u>613-624-ft, 9 cuts/ft/4x4-in</u> 8-in ID carbon steel liner, <u>603-710-ft</u> Lead packer at top, Drive shoe at bottom 6-in ID carbon steel liner, <u>701-891-ft</u> Lead packer at top, Drive shoe at bottom	
Drawing By: <u>RKL/6N107W79.ASB</u> Date: <u>04Nov93</u> Reference: _____		Borehole drilled depth: <u>[938-ft]</u>	

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	1. Well No. 699-107-79				
Page 1 of 2					
<p>2. Has a need for use of the well been identified and documented? [<u>Yes</u>] <u>Well is in use</u></p> <p>3. Is well presently in use? [<u>Yes</u>] <u>Community water supply</u></p> <p>4. Is casing sealed in accordance with IAW WAC 173-160-075? [<u>Yes</u>] <u>Surface casing grouted, entrance casing into basalt</u></p> <p>4a. Natural barriers preserved? [<u>ND</u>] <u>Interbeds may be open</u></p> <p>4b. Aquifer/strata penetrated permanently sealed? [<u>ND</u>] <u>Not documented</u></p> <p>4c. Annulus sealed against surface water? [<u>Yes</u>] <u>Has sealed surface casing and concrete pad</u></p> <p>4d. Casing overlap more than 8 ft; packed and grouted? [<u>Yes</u>] <u>Casing is packed</u></p> <p>5. If not in use, is well capped IAW WAC 173-160-085? [<u>N/A</u>] _____</p> <p>6. Is design and construction IAW WAC 173-160-500? [<u>N/A</u>] <u>Well is not resource protection well</u></p> <p>6a. Saturated formation/aquifers not connected? [<u>N/A</u>] _____</p> <p>6b. Cuttings/development water handled IAW WAC 173-303? [<u>N/A</u>] _____</p> <p>6c. Well properly identified? [<u>N/A</u>] _____</p> <p>7. Is surface protection IAW WAC 173-160-510? [<u>N/A</u>] _____</p> <p>7a. Well capped and protected? [<u>N/A</u>] _____</p> <p>7b. Protective posts, surface pad or cover installed? [<u>N/A</u>] _____</p> <p>7c. Surface protection waived or variance obtained? [<u>N/A</u>] _____</p> <p>7d. Is existing surface protection damaged? [<u>N/A</u>] _____</p> <p>8. Are casing materials IAW 173-160-520? [<u>N/A</u>] _____</p> <p>9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530? [<u>N/A</u>] _____</p> <p>9a. Drill rig/equipment casing/screen cleaned? [<u>N/A</u>] _____</p> <p>9b. Filter pack cleaned? Material compatible? [<u>N/A</u>] _____</p> <tr><td colspan="2">RCRA/CERCLA MONITORING WELL?</td></tr> <tr><td colspan="2"><p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>N/A</u>] _____</p><p>10a. Screened interval documented? [<u>N/A</u>] _____</p><p>10b. Vertical lithology documented? [<u>Yes</u>] <u>Driller's log</u></p></td></tr>		RCRA/CERCLA MONITORING WELL?		<p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>N/A</u>] _____</p> <p>10a. Screened interval documented? [<u>N/A</u>] _____</p> <p>10b. Vertical lithology documented? [<u>Yes</u>] <u>Driller's log</u></p>	
RCRA/CERCLA MONITORING WELL?					
<p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>N/A</u>] _____</p> <p>10a. Screened interval documented? [<u>N/A</u>] _____</p> <p>10b. Vertical lithology documented? [<u>Yes</u>] <u>Driller's log</u></p>					

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST		1. Well No. <u>699-107-79</u>
		Page 2 of 2

11. Is design and construction IAW WAC 173-160-540?

[N/A] _____

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?

[N/A] _____

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.

[N/A] _____

11c. Well has been developed.

[N/A] _____

11d. Annulus grouted with bentonite or bentonite/cement mixture.

[N/A] _____

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.

[N/A] _____

13. Data Sources Used:

Logs:

Driller's: <u>Strasser Drilling Protland OR</u>	Date: <u>05/10/52</u>	Company: _____
Geologist: <u>N/A</u>	Date: _____	Company: _____
Geophysical: <u>N/A</u>	Date: _____	Company: _____
Television: <u>N/A</u>	Date: _____	Company: _____

Publications: Title, Author, Date

HANFORD WELLS, V. L. McGhan, June 1989

Databases:

N/A

Field Check: WHC GWWS Date: 07/08/93 Company: _____

Other: _____

14. Comments: Identify evaluation criteria addressed by number:

[15] Well is in beneficial use as a water supply well. Documented construction is acceptable for water well use except that lead packers were used for completion.

15. Status

Well is acceptable for intended use	[<u>No</u>]	Well contains lead packers
Well is acceptable for intended use if variance is granted	[<u>Yes</u>]	Variance for lead packers
Rehabilitation required to continue intended use	[<u>No</u>]	Well is in use
Remediation required to achieve intended use	[<u>No</u>]	Not required
Decommission, well is unneeded or cannot be remediated	[<u>No</u>]	Well is in beneficial use
Other _____	[<u>N/A</u>]	_____

16. Status Recommendation

Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/21/93

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: <u>Cable tool</u>	Sample Method: <u>Hard tool</u>	WELL NUMBER: <u>699-108-20</u>	TEMPORARY WELL NO: <u>PSN 500-1</u>
Drilling Fluid Used: <u>Not documented</u>	Additives Used: <u>Not documented</u>	Hanford Coordinates: <u>N/S N 108,000</u>	E/W <u>W 20,000</u>
Driller's Name: <u>R. J. Strasser (?)</u>	WA State Lic Nr: <u>Not documented</u>	State Lat <u>46°44'09"</u>	Long <u>119°24'18"</u>
Drilling Company: <u>Strasser Drilling Co</u>	Company Location: <u>Portland, OR</u>	Coordinates: <u>N 513,250</u>	E <u>2,275,048</u>
Date Started: <u>05Nov51</u>	Date Complete: <u>15Jan52</u>	Start Card #: <u>Not documented</u>	T14N R27E 2C1
		Elevation Ground surface: <u>697.7-ft Estimated</u>	

Depth to water: 287-ft 29Jan52Elevation of reference point:
697.7-ft (Top of casing)GENERALIZED Driller's
STRATIGRAPHY Log

0-109: CLAY, hard, compact white
 109-148.5: SHALE, red-brown
 148.5-151: SAND lens
 151-204: SHALE, red-brown
 204-208: CLAY, blue
 208-254: BASALT, brown and gray, hard, green CLAY seams
 254-269: BASALT, black somewhat vesicular
 269-294: BASALT, dense, black
 294-350: BASALT, with interbedded Sand lenses. Carries small amount of water.
 350-509: BASALT, dense, gray to black
 509-527: BASALT, gray with seams of blue CLAY
 527-604: BASALT, gray to black
 604-608: BASALT, gray with soapstone streaks, water bearing
 608-614: BASALT, gray, closely fractured from 608' to 609'
 614-620: BASALT, vesicular, slightly altered. Vesicles coated with blue clay, water bearing
 620-634.5: BASALT

Surface protection
Not documented20-in ID carbon steel casing
Surface-107-ft w/steel drive shoe16-in ID carbon steel casing,
Surface-255-ft w/steel drive shoeHole diameter,
0-107-ft, 21-in nominal
107-255-ft, 17-in nominal
255-353-ft, 13-in nominal12-in ID carbon steel liner,
243-353-ft
Assumed lead packer at top and steel drive shoes, top and bottomNo perforations documented
But nearby 699-111-24 of similar construction has perforated 12-in linerHole diameter,
255-634.5-ft, 12-in nominal

Borehole drilled depth: [634.5-ft]

Drawing By: RKL/6N108W20.ASBDate: 04Nov93Reference: HANFORD WELLS

DIAGRAMMATIC WELL DECOMMISSIONING PLAN			
Drilling Method: <u>Cable tool</u> Drilling Fluid Used: <u>Not documented</u> Driller's Name: <u>R. J. Strasser (?)</u> Drilling Company: <u>Strasser Drilling Co</u> Location <u>Portland, OR</u> Date Started: <u>05Nov51</u> Complete: <u>15Jan52</u>	Sample Method: <u>Hard tool</u> Additives Used: <u>Not documented</u> WA State Lic Nr: <u>Not documented</u> Company Date	WELL NUMBER: <u>699-108-20</u> TEMPORARY WELL NO: <u>PSN 500-1</u> Hanford Coordinates: <u>N/S N 108,000</u> E/W <u>W 20,000</u> State Lat <u>46°44'09"</u> Long <u>119°24'18"</u> Coordinates: <u>N 513,250</u> E <u>2,275,048</u> Start Card #: <u>Not documented</u> T14W R27E 2C1 Elevation Ground surface (ft): <u>697.7-ft Estimated</u>	
Depth to water: <u>287-ft 29Jan52</u> DIAGRAMMATIC DECOMMISSIONING PLAN (Depths from ground surface)		Elevation of reference point: <u>697.7-ft (Top of casing)</u>	
<div style="display: flex;"> <div style="flex: 1;"> <p>[1] Locate well.</p> <p>[2] Clean out to bottom. Run TV.</p> <p>[3] Cement grout open hole, 255-634.5-ft in <100-ft stages w/tremmie pipe.</p> <p>[4] Perforate 12-in liner 245-350-ft. Grout w/neat cement using tremmie pipe.</p> <p>[5] Perforate 16-in casing, 110-240-ft and pressure grout w/neat cement in 1-2 stages.</p> <p>[6] Fill interior of 16-in casing to ~3-ft below ground surface.</p> <p>[7] Cut casing @ 3-ft, place concrete or metal cap, fill to grade and compact.</p> </div> <div style="flex: 1; border-left: 1px solid black; position: relative;"> <div style="position: absolute; top: 0; right: 0; width: 20px; height: 20px; text-align: center;">[7]</div> <div style="position: absolute; top: 20px; right: 0; width: 20px; height: 20px; text-align: center;">[6]</div> <div style="position: absolute; top: 440px; right: 0; width: 20px; height: 20px; text-align: center;">[5]</div> <div style="position: absolute; top: 490px; right: 0; width: 20px; height: 20px; text-align: center;">[4]</div> <div style="position: absolute; top: 550px; right: 0; width: 20px; height: 20px; text-align: center;">[3]</div> <div style="position: absolute; top: 610px; right: 0; width: 20px; height: 20px; text-align: center;">[2]</div> <div style="position: absolute; top: 670px; right: 0; width: 20px; height: 20px; text-align: center;">[1]</div> </div> </div>		<div style="display: flex; flex-direction: column; align-items: flex-end;"> <div style="margin-bottom: 10px;">Surface protection not documented</div> <div style="margin-bottom: 10px;">20-in casing, surface=107-ft Carbon steel w/steel drive shoe Cement grout assumed</div> <div style="margin-bottom: 10px;">16-in casing, surface=255-ft carbon steel w/steel drive shoe</div> <div style="margin-bottom: 10px;">Lead packer assumed at top of 12-in liner</div> <div style="margin-bottom: 10px;">12-in liner 243-353-ft drive shoe assumed at bottom of liner</div> <div style="margin-bottom: 10px;">No perforations documented But nearby 699-111-24 of similar construction has perforated 12-in liner</div> <div style="margin-bottom: 10px;">Hole diameter ~12-in, 255-634.5-ft</div> <div style="margin-bottom: 10px;">Depth bottom of borehole [<u>634.5-ft</u>]</div> </div>	
Drawing By: <u>RKL/6N108W24.PLN</u> Date: <u>18Aug93</u> Reference: _____			

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	1. Well No. 699-108-20 Page 1 of 2
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2. Has a need for use of the well been identified and documented?
[No] No documented use

3. Is well presently in use?
[No] Unable to locate well

4. Is casing sealed in accordance with IAW WAC 173-160-075?
[ND] Not documented

4a. Natural barriers preserved?
[ND] Not documented

4b. Aquifer/strata penetrated permanently sealed?
[ND] Not documented

4c. Annulus sealed against surface water?
[ND] Not documented

4d. Casing overlap more than 8 ft; packed and grouted?
[ND] Not documented

5. If not in use, is well capped IAW WAC 173-160-085?
[ND] Not documented

6. Is design and construction IAW WAC 173-160-500?
[N/A] Well is not a resource protection well, may not be drilled

6a. Saturated formation/aquifers not connected?
[N/A] _____

6b. Cuttings/development water handled IAW WAC 173-303?
[N/A] _____

6c. Well properly identified?
[ND] Unable to locate

7. Is surface protection IAW WAC 173-160-510?
[N/A] _____

7a. Well capped and protected?
[N/A] _____

7b. Protective posts, surface pad or cover installed?
[N/A] _____

7c. Surface protection waived or variance obtained?
[N/A] _____

7d. Is existing surface protection damaged?
[N/A] _____

8. Are casing materials IAW 173-160-520?
[N/A] _____

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
[N/A] _____

9a. Drill rig/equipment casing/screen cleaned?
[N/A] _____

9b. Filter pack cleaned? Material compatible?
[N/A] _____

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
[N/A] _____

10a. Screened interval documented?
[N/A] _____

10b. Vertical lithology documented?
[Yes] Driller's log

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	1. Well No. <u>699-108-20</u>
	Page 2 of 2

11. Is design and construction IAW WAC 173-160-540?

[N/A] _____

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?

[N/A] _____

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.

[N/A] _____

11c. Well has been developed.

[N/A] _____

11d. Annulus grouted with bentonite or bentonite/cement mixture.

[N/A] _____

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.

[N/A] _____

13. Data Sources Used:

Logs:

Driller's: Strasser Drilling Portland OR Date: 01/15/52 Company: _____

Geologist: N/A Date: _____ Company: _____

Geophysical: N/A Date: _____ Company: _____

Television: N/A Date: _____ Company: _____

Publications: Title, Author, Date

N/A

Databases:

N/A

Field Check: N/A Date: _____ Company: _____

Other:

14. Comments: Identify evaluation criteria addressed by number:

[15] Unable to locate well. Decommission if located.

15. Status

Well is acceptable for intended use [ND] Not documented

Well is acceptable for intended use if variance is granted [ND] Not documented

Rehabilitation required to continue intended use [ND] Not documented

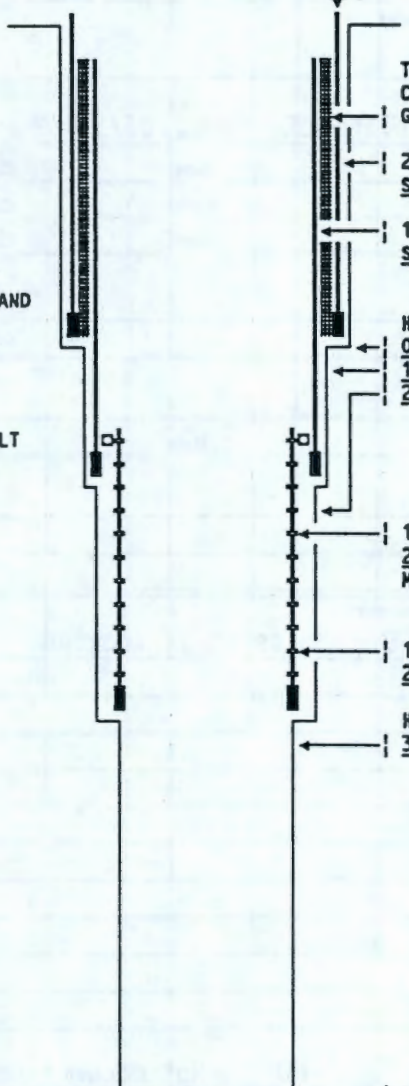
Remediation required to achieve intended use [ND] Not documented

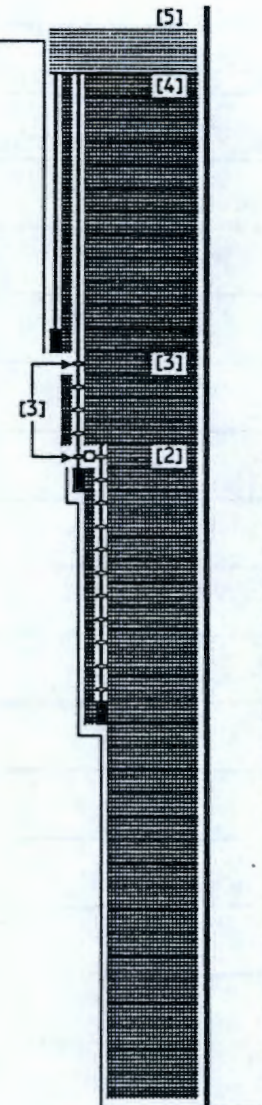
Decommission, well is unneeded or cannot be remediated [Yes] Decommission if located

Other [N/A] _____

16. Status Recommendation

Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/21/93

WELL CONSTRUCTION AND COMPLETION SUMMARY			
Drilling Method: Cable tool Drilling Fluid Used: Not documented Driller's Name: R. J. Strasser (?) Company: Strasser Drilling Co Date Started: Within 1951	Sample Method: Hard tool Additives: Not documented WA State Lic Nr: Not documented Company Location: Portland, OR Date Complete: 20Jan52	WELL NUMBER: 699-111-24 Hanford Coordinates: N/S N 111,000 E/W W 24,000 State Coordinates: N 516,240 E 2,271,040 Start Card #: Not documented T15N R27E S34L Elevation Ground surface: Not documented	
Depth to water: 271-ft Jan52			
GENERALIZED Driller's STRATIGRAPHY Log			
0-109: TOPSOIL and CLAY 109-208: Reddish-brown SHALE 208-219: Brown & grey ROCK 219-229: Alternate layers-hard & soft ROCK 229-238: Hard grey BASALT-green CLAY seams 238-269: Porous black BASALT 269-297: Hard black BASALT 297-351: Porous black BASALT w/interbedding of SAND (40 gpm water) 351-509: Hard black and grey BASALT 509-535: Grey BASALT-blue CLAY in seams 535-603: Grey and black BASALT 603-628: Grey porous BASALT 628-636: Hard BASALT	 <div style="position: absolute; left: 500px; top: 240px;"> Elevation of reference point: 699.14 ft (Top of casing) </div> <div style="position: absolute; left: 540px; top: 315px;"> Type of surface protection: Cement pump pad Grout between 16 and 20-in casings, </div> <div style="position: absolute; left: 540px; top: 355px;"> 20-in ID carbon steel casing, Surface-108-ft w/steel drive shoe </div> <div style="position: absolute; left: 540px; top: 390px;"> 16-in ID carbon steel casing, Surface-255-ft w/steel drive shoe </div> <div style="position: absolute; left: 540px; top: 435px;"> Hole diameter, 0-108-ft, 21-in nominal 108-255-ft, 17-in nominal 255-353.5-ft, 13-in nominal </div> <div style="position: absolute; left: 540px; top: 535px;"> 12-in ID carbon steel liner, 245-353.5-ft w/steel drive shoe May have lead packer at top </div> <div style="position: absolute; left: 540px; top: 590px;"> 12-in liner perforations, 245-353-ft, 12/ft/4x4-in </div> <div style="position: absolute; left: 540px; top: 625px;"> Hole diameter, 353.5-636.0-ft, 12-in nominal </div> <div style="position: absolute; left: 540px; top: 800px;"> Borehole drilled depth: [636.0-ft] </div>		
Drawing By: RKL/6N111W24.ASB Date: 04Nov93 Reference:			

DIAGRAMMATIC WELL DECOMMISSIONING PLAN			
Drilling Method: <u>Cable tool</u> Drilling Fluid Used: <u>Not documented</u> Driller's Name: <u>R. J. Strasser (?)</u> Drilling Company: <u>Strasser Drilling Co</u> Location <u>Portland, OR</u> Date _____ Date _____ Started: <u>Within 1951</u> Complete: <u>20Jan52</u>	Sample Method: <u>Hard tool</u> Additives Used: <u>Not documented</u> WA State Lic Nr: <u>Not documented</u> Company _____	WELL NUMBER: <u>699-111-24</u> TEMPORARY WELL NO: <u>PSN 500-1</u> Hanford Coordinates: <u>N/S W 111,000</u> E/W <u>W 24,000</u> State _____ Coordinates: <u>N 516,240</u> E <u>2,271,040</u> Start _____ Card #: <u>Not documented</u> T15N R27E S34L Elevation _____ Ground surface (ft): <u>Not documented</u>	
Depth to water: <u>271-ft Jan52</u> DIAGRAMMATIC DECOMMISSIONING PLAN (Depths from ground surface)			
[1] Clean ou to bottom. Run TV. [2] Grout w/neat cement 250-636-ft in <100-ft stages using tremmie pipe. [3] Perforate 16-in casing, 110-240-ft and pressure grout in two stages. [4] Fill 16-in casing to -3-ft below ground surface w/neat cement. [5] Cut casings @ -3-ft, place concrete or metal cap, fill to grade and compact.	 <div style="position: absolute; top: 240px; left: 530px;"> Elevation of reference point: <u>699.14 ft (Top of casing)</u> </div> <div style="position: absolute; top: 310px; left: 600px;"> Type of surface protection: <u>Cement pump pad</u> <u>Grout between 16-20-in</u> <u>casing</u> </div> <div style="position: absolute; top: 360px; left: 590px;"> 20-in casing, surface-108-ft Carbon steel w/steel drive shoe Cement grout assumed </div> <div style="position: absolute; top: 410px; left: 590px;"> 16-in casing, surface-255-ft carbon steel w/steel drive shoe </div> <div style="position: absolute; top: 480px; left: 590px;"> Lead packer assumed at top of 12-in liner </div> <div style="position: absolute; top: 530px; left: 590px;"> 12-in liner 245-353.5-ft w/steel drive shoe </div> <div style="position: absolute; top: 580px; left: 590px;"> Perforated 245-353-ft (HANFORD WELLS) 3/8-in by 4-in 12/ft </div> <div style="position: absolute; top: 630px; left: 590px;"> Hole diameter -12-in, 353.5-636.0-ft </div> <div style="position: absolute; top: 790px; left: 590px;"> Depth bottom of borehole: <u>[636.0-ft]</u> </div>		
Drawing By: <u>RKL/6N111W24.PLN</u> Date: <u>28Sep93</u> Reference: _____			

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	1. Well No. 699-111-24				
Page 1 of 2					
<p>2. Has a need for use of the well been identified and documented? [<u>No</u>] <u>No documented use</u></p> <p>3. Is well presently in use? [<u>No</u>] <u>Well is abandoned, but has not been decommissioned</u></p> <p>4. Is casing sealed in accordance with IAW WAC 173-160-075? [<u>ND</u>] <u>Not documented</u></p> <p>4a. Natural barriers preserved? [<u>ND</u>] <u>Not documented</u></p> <p>4b. Aquifer/strata penetrated permanently sealed? [<u>ND</u>] <u>No documented</u></p> <p>4c. Annulus sealed against surface water? [<u>Yes</u>] <u>Has surface pad, assumed surface casing grouted</u></p> <p>4d. Casing overlap more than 8 ft; packed and grouted? [<u>Yes</u>] <u>Upper casing assumed grouted, has lead packers</u></p> <p>5. If not in use, is well capped IAW WAC 173-160-085? [<u>ND</u>] <u>Metal plate cap</u></p> <p>6. Is design and construction IAW WAC 173-160-500? [<u>N/A</u>] <u>Not resource protection well</u></p> <p>6a. Saturated formation/aquifers not connected? [<u>N/A</u>] _____</p> <p>6b. Cuttings/development water handled IAW WAC 173-303? [<u>N/A</u>] _____</p> <p>6c. Well properly identified? [<u>N/A</u>] _____</p> <p>7. Is surface protection IAW WAC 173-160-510? [<u>N/A</u>] _____</p> <p>7a. Well capped and protected? [<u>N/A</u>] _____</p> <p>7b. Protective posts, surface pad or cover installed? [<u>N/A</u>] _____</p> <p>7c. Surface protection waived or variance obtained? [<u>N/A</u>] _____</p> <p>7d. Is existing surface protection damaged? [<u>N/A</u>] _____</p> <p>8. Are casing materials IAW 173-160-520? [<u>N/A</u>] _____</p> <p>9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530? [<u>N/A</u>] _____</p> <p>9a. Drill rig/equipment casing/screen cleaned? [<u>N/A</u>] _____</p> <p>9b. Filter pack cleaned? Material compatible? [<u>N/A</u>] _____</p> <tr><td colspan="2" style="padding: 5px;">RCRA/CERCLA MONITORING WELL?</td></tr> <tr><td colspan="2" style="padding: 5px;"><p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>N/A</u>] _____</p><p>10a. Screened interval documented? [<u>N/A</u>] _____</p><p>10b. Vertical lithology documented? [<u>Yes</u>] <u>Driller's log</u></p></td></tr>		RCRA/CERCLA MONITORING WELL?		<p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>N/A</u>] _____</p> <p>10a. Screened interval documented? [<u>N/A</u>] _____</p> <p>10b. Vertical lithology documented? [<u>Yes</u>] <u>Driller's log</u></p>	
RCRA/CERCLA MONITORING WELL?					
<p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>N/A</u>] _____</p> <p>10a. Screened interval documented? [<u>N/A</u>] _____</p> <p>10b. Vertical lithology documented? [<u>Yes</u>] <u>Driller's log</u></p>					

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	1. Well No. <u>699-111-24</u> Page 2 of 2
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11. Is design and construction IAW WAC 173-160-5407
 [N/A]

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
 [N/A]

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
 [N/A]

11c. Well has been developed.
 [N/A]

11d. Annulus grouted with bentonite or bentonite/cement mixture.
 [N/A]

12. Does water sample meet established acceptance criteria?
 Sample is less than 5 NTU and sand free.
 [N/A]

13. Data Sources Used:
 Logs:
 Driller's: Strasser Drilling Portland OR Date: 01/20/52 Company: _____
 Geologist: NA Date: _____ Company: _____
 Geophysical: NA Date: _____ Company: _____
 Television: NA Date: _____ Company: _____

Publications: Title, Author, Date
HANFORD WELLS, V. L. McGhan, June 1989

Databases:
N/A

Field Check: N/A Date: _____ Company: _____

Other:

14. Comments: Identify evaluation criteria addressed by number:
[5] Well is not in use and has no documented need for use.
Decommissioning is recommended. See attached diagrammatic well
decommissioning plan.

15. Status
 Well is acceptable for intended use [No] Rehabilitation required
 Well is acceptable for intended use if variance is granted [No] Rehabilitation required
 Rehabilitation required to continue intended use [Yes] Cleanout/redevelop
 Remediation required to achieve intended use [No] Acceptable water well const.
 Decommission, well is unneeded or cannot be remediated [Yes] Well is unneeded
 Other [N/A] _____

16. Status Recommendation
 Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/21/93

WELL CONSTRUCTION AND COMPLETION SUMMARY			
Drilling Method: <u>Cable tool</u> Drilling Fluid Used: <u>Not documented</u> Driller's Name: <u>R. J. Strasser (?)</u> Drilling Company: <u>Strasser Drilling Co</u> Date Started: <u>Not documented</u>	Sample Method: <u>Hard tool</u> Additives Used: <u>Not documented</u> WA State Lic Nr: <u>Not documented</u> Company Location <u>Portland, OR</u> Date Complete: <u>29Jan54</u>	WELL NUMBER: <u>699-112-37</u> Hanford Coordinates: <u>N/S N 111.737</u> State Coordinates: <u>N 516,945</u> Start Card #: <u>Not documented</u> Elevation Ground surface: <u>Not documented</u>	
		TEMPORARY WELL NO: <u>PSN 535, #8</u> E/W <u>W 36,569</u> E <u>2,258,469</u> T15N R27E S32E	
Depth to water: <u>262-ft Jan54</u>			
Elevation of reference point: <u>741.82 ft (Southwest corner)</u>			
GENERALIZED Driller's STRATIGRAPHY Log			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> 0-3: TOP SOIL 3-277: CALICHE and CLAY, some SAND 277-372: BASALT, porous black and gray 372-404: CLAY, SAND, TALUS 404-565: BASALT, gray and black 565-575: CLAY, gray 575-580: Coarse SAND, CLAY 580-765: BASALT, gray and black 765-862: CLAY, blue, yellow w/broken BASALT 862-982: BASALT, black and gray 982-998: BASALT, brown (W) 998-1034: BASALT, black and gray 1,034-1,038: CINDERS, red & brown 1,038-1,067: BASALT, black 1,067-1,077: BASALT, brown 1,077-1,107: BASALT, black, hard 1,107-1,115: BASALT, light brown 1,115-1,123: BASALT, hard, gray </div> <div style="width: 50%;"> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Type of surface protection: Concrete pump housing Grout between 16-20-in casings </div> <div style="margin-bottom: 10px;"> 20-in ID carbon steel casing Surface-188-ft w/steel drive shoe </div> <div style="margin-bottom: 10px;"> 16-in ID carbon steel casing Surface-405-ft w/steel drive shoe </div> <div style="margin-bottom: 10px;"> Hole diameter, 0-188-ft, 21-in nominal 188-405-ft, 17-in nominal 405-720-ft, 13-in nominal </div> <div style="margin-bottom: 10px;"> 12-in ID carbon steel liner, 395-720-ft Lead packer at top, Drive shoes at top and bottom </div> <div style="margin-bottom: 10px;"> 10-in ID carbon steel liner, 711-873-ft Lead packer at top, Drive shoes at top and bottom </div> <div style="margin-bottom: 10px;"> 8-in ID carbon steel liner, 863-1,123-ft Lead packer at top, Drive shoes at top and bottom </div> <div style="margin-bottom: 10px;"> 8-in liner perforations, 982-995-ft, 9/ft/4-in </div> <div style="margin-bottom: 10px;"> 1,034-1,038-ft, 9/ft/4-in </div> <div style="margin-bottom: 10px;"> 1,067-1,077-ft, 9/ft/4-in </div> <div style="margin-bottom: 10px;"> 1,107-1,115-ft, 9/ft/4-in </div> <div style="margin-bottom: 10px;"> Borehole drilled depth: [1,123-ft] </div> </div> </div>			
Drawing By: <u>RKL/6N112W37.ASB</u> Date: <u>04Nov93</u> Reference: _____			

DIAGRAMMATIC WELL DECOMMISSIONING PLAN			
Drilling Method: <u>Cable tool</u> Drilling Fluid Used: <u>Not documented</u> Driller's Name: <u>R. J. Strasser (?)</u> Drilling Company: <u>Strasser Drilling Co</u> Date Started: <u>Not documented</u>	Sample Method: <u>Hard tool</u> Additives Used: <u>Not documented</u> WA State Lic Nr: <u>Not documented</u> Company Location: <u>Portland, OR</u> Date Complete: <u>29Jan54</u>	WELL NUMBER: <u>699-112-37</u> Hanford Coordinates: <u>N/S N 111,737</u> State Coordinates: <u>N 516,945</u> Start Card #: <u>Not documented</u> Elevation Ground surface (ft): <u>Not documented</u>	
		TEMPORARY WELL NO: <u>PSN 535, #8</u> E/W <u>N 36,569</u> E <u>2,258,469</u> T15N R27E S32E	
Depth to water: <u>262-ft Jan54</u>			
DIAGRAMMATIC DECOMMISSIONING PLAN (Depths from ground surface)			
<p>[1] Clean hole to bottom. Run TV.</p> <p>[2] Perforate 8-in liner, 865~1,120-ft. Cement grout w/tremmie pipe in <100-ft stages. Well diameter may be greater than 8-in. Cement volumes and fillup should be closely monitored.</p> <p>[3] Perforate 10-in liner, 715~860-ft. Cement grout w/tremmie pipe in <100-ft stages.</p> <p>[4] Perforate 12-in liner, 400~710-ft. Cement grout w/tremmie pipe in <100-ft stages.</p> <p>[5] Perforate 16-in casing, 190~390-ft and pressure grout in two stages.</p> <p>[6] Fill 16-in casing to bottom of pump structure w/cement grout.</p> <p>[7] Remove pump structure and pad. Place concrete or metal cap. Fill to grade and compact.</p> <p>NOTE: Order of work to be determined by field conditions.</p>	<p style="text-align: right;">Elevation of reference point: <u>741.82 ft (Southwest corner)</u></p> <p style="text-align: right;">Type of surface protection: <u>Cement pump housing</u> <u>Grout between 16-20 in casing</u></p> <p style="text-align: right;">20-in casing, surface~188-ft Carbon steel w/steel drive shoe Cement grout assumed</p> <p style="text-align: right;">16-in casing, surface~405-ft carbon steel w/steel drive shoe</p> <p style="text-align: right;">Lead packer at top of 12-in liner</p> <p style="text-align: right;">12-in liner 395~720-ft drive shoes at top and bottom of liner</p> <p style="text-align: right;">Lead packer at top of 10-in liner</p> <p style="text-align: right;">10-in liner 711~873-ft drive shoes at top and bottom of liner</p> <p style="text-align: right;">Lead packer at top of 8-in liner</p> <p style="text-align: right;">8 in liner 863~1,123-ft drive shoes at top and bottom</p> <p style="text-align: right;">Perforated 982~995-ft 9 per/ft, 3/8x4-in</p> <p style="text-align: right;">Perforated 1,034~1,038-ft 9 per/ft, 3/8x4-in</p> <p style="text-align: right;">Perforated 1,067~1,077-ft 9 per/ft, 3/8x4-in</p> <p style="text-align: right;">Perforated 1,107~1,115-ft 9 per/ft, 3/8x4-in</p> <p style="text-align: right;">Bottom of borehole 1,123-ft</p>		
Drawing By: <u>RKL/6N112W37.PLN</u> Date: <u>18Aug93</u> Reference: _____			

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	<div style="border-bottom: 1px solid black; margin-bottom: 5px;">1. Well No. <u>699-112-37</u></div> <div style="text-align: center; font-size: small;">Page 1 of 2</div>
<div>2. Has a need for use of the well been identified and documented? [<u>No</u>] <u>No documented use</u></div> <div>3. Is well presently in use? [<u>No</u>] <u>Well is abandoned, but has not been decommissioned</u></div> <div>4. Is casing sealed in accordance with IAW WAC 173-160-075? [<u>ND</u>] <u>Not documented</u><div style="margin-left: 20px;">4a. Natural barriers preserved? [<u>ND</u>] <u>Not documented</u></div><div style="margin-left: 20px;">4b. Aquifer/strata penetrated permanently sealed? [<u>ND</u>] <u>Not documented</u></div><div style="margin-left: 20px;">4c. Annulus sealed against surface water? [<u>Yes</u>] <u>Has concrete pump housing and surface casing</u></div><div style="margin-left: 20px;">4d. Casing overlap more than 8 ft; packed and grouted? [<u>Yes</u>] <u>Casing overlaps, has lead packers</u></div></div> <div>5. If not in use, is well capped IAW WAC 173-160-085? [<u>Yes</u>] <u>Has steel plate</u></div> <div>6. Is design and construction IAW WAC 173-160-500? [<u>N/A</u>] <u>Not a resource protection well</u><div style="margin-left: 20px;">6a. Saturated formation/aquifers not connected? [<u>N/A</u>] _____</div><div style="margin-left: 20px;">6b. Cuttings/development water handled IAW WAC 173-303? [<u>N/A</u>] _____</div><div style="margin-left: 20px;">6c. Well properly identified? [<u>N/A</u>] _____</div></div> <div>7. Is surface protection IAW WAC 173-160-510? [<u>N/A</u>] _____<div style="margin-left: 20px;">7a. Well capped and protected? [<u>N/A</u>] _____</div><div style="margin-left: 20px;">7b. Protective posts, surface pad or cover installed? [<u>N/A</u>] _____</div><div style="margin-left: 20px;">7c. Surface protection waived or variance obtained? [<u>N/A</u>] _____</div><div style="margin-left: 20px;">7d. Is existing surface protection damaged? [<u>N/A</u>] _____</div></div> <div>8. Are casing materials IAW 173-160-520? [<u>N/A</u>] _____</div> <div>9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530? [<u>N/A</u>] _____<div style="margin-left: 20px;">9a. Drill rig/equipment casing/screen cleaned? [<u>N/A</u>] _____</div><div style="margin-left: 20px;">9b. Filter pack cleaned? Material compatible? [<u>N/A</u>] _____</div></div>	
<div style="border-bottom: 1px solid black; margin-bottom: 5px;">RCRA/CERCLA MONITORING WELL?</div> <div>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>N/A</u>] _____<div style="margin-left: 20px;">10a. Screened interval documented? [<u>N/A</u>] _____</div><div style="margin-left: 20px;">10b. Vertical lithology documented? [<u>Yes</u>] <u>Driller's log</u></div></div>	

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST		1. Well No. 699-112-37
		Page 2 of 2
11. Is design and construction IAW WAC 173-160-540?		
(<u>N/A</u>) _____		
11a. Screen commercially fabricated of material nonreactive to subsurface conditions?		
(<u>N/A</u>) _____		
11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.		
(<u>N/A</u>) _____		
11c. Well has been developed.		
(<u>N/A</u>) _____		
11d. Annulus grouted with bentonite or bentonite/cement mixture.		
(<u>N/A</u>) _____		
12. Does water sample meet established acceptance criteria?		
Sample is less than 5 NTU and sand free.		
(<u>N/A</u>) _____		
13. Data Sources Used:		
Logs:		
Driller's: <u>Strasser Drilling Portland OR</u>	Date: <u>01/29/54</u>	Company: _____
Geologist: <u>N/A</u>	Date: _____	Company: _____
Geophysical: <u>N/A</u>	Date: _____	Company: _____
Television: <u>N/A</u>	Date: _____	Company: _____
Publications: Title, Author, Date		
<u>HANFORD WELLS, V. L. McGhan, June 1989</u>		
Databases:		
<u>N/A</u>		
Field Check: <u>WHC GWWS</u>	Date: <u>07/08/93</u>	Company: _____
Other: _____		

14. Comments: Identify evaluation criteria addressed by number:		
<u>[15] Well is not in use and has no documented need for use.</u>		
<u>Decommissioning is recommended. See attached diagrammatic well</u>		
<u>decommissioning plan.</u>		

15. Status		
Well is acceptable for intended use	(<u>No</u>)	<u>Rehabilitation required</u>
Well is acceptable for intended use if variance is granted	(<u>No</u>)	<u>Rehabilitation required</u>
Rehabilitation required to continue intended use	(<u>Yes</u>)	<u>Cleanout/redevelop</u>
Remediation required to achieve intended use	(<u>No</u>)	<u>Acceptable water well const.</u>
Decommission, well is unneeded or cannot be remediated	(<u>Yes</u>)	<u>Well is unneeded</u>
Other _____	(<u>N/A</u>)	_____
16. Status Recommendation		
Done By: Name: <u>R. K. Ledgerwood</u>	Title: <u>Principal Scientist</u>	Date: <u>10/21/93</u>

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling	Sample	WELL	TEMPORARY
Method: Cable tool	Method: Hard tool	NUMBER: 699-115-61	WELL NO: PSN 420, #7
Drilling	Additives	Hanford	
Fluid Used: Not documented	Used: Not documented	Coordinates: N/S N 114,633	E/W W 60,557
Driller's	WA State	State	
Name: R. J. Strasser (?)	Lic Nr: Not documented	Coordinates: N 519,779	E 2,234,474
Drilling	Company	Start	
Company: Strasser Drilling Co	Location: Portland, OR	Card #: Not documented	T15N R26E S28Q
Date	Date	Elevation	
Started: Not documented	Complete: 01Sep53	Ground surface: Not documented	

Depth to water: 317-ft Sep53
(Ground surface) 298.1-ft Jun90

Elevation of reference point:
790.60 ft (Top Steel Plate)

GENERALIZED Driller's
STRATIGRAPHY Log

0-13: TOPSOIL
13-16: CLAY and GRAVEL
16-23: Brown SAND
23-216: Brown and gray CLAY
216-276: CLAY and SAND,
brown and gray
276-298: Broken BASALT and CLAY
298-341: Hard gray BASALT
341-360: Porous black ROCK
w CLAY
360-366: Yellow CLAY
366-398: Porous black ROCK
398-522: Gray BASALT
522-558: Gray, red, brown CLAY
558-660: BASALT, gray and broken
660-788: Yellow, brown and
gray CLAY
788-861: BASALT, gray, broken
861-868: Red, yellow and gray
broken (BASALT?) (W)
868-892: Gray BASALT

Type of surface protection:
Cement pump housing
Grout between 16 and 20-in casings

20-in ID carbon steel casing,
Surface-258-ft w/steel drive shoe

16-in ID carbon steel casing,
Surface-415-ft w/steel drive shoe

Hole diameter,
0-258-ft, 21-in nominal
258-415-ft, 17-in nominal
415-892-ft, 16-in nominal

NOTE: Hole diameter 415-892-ft is
assumed to be 16-in based on
documented pump test

12-in ID carbon steel liner,
405-582-ft
Lead packer at top,
Drive shoes at top and bottom

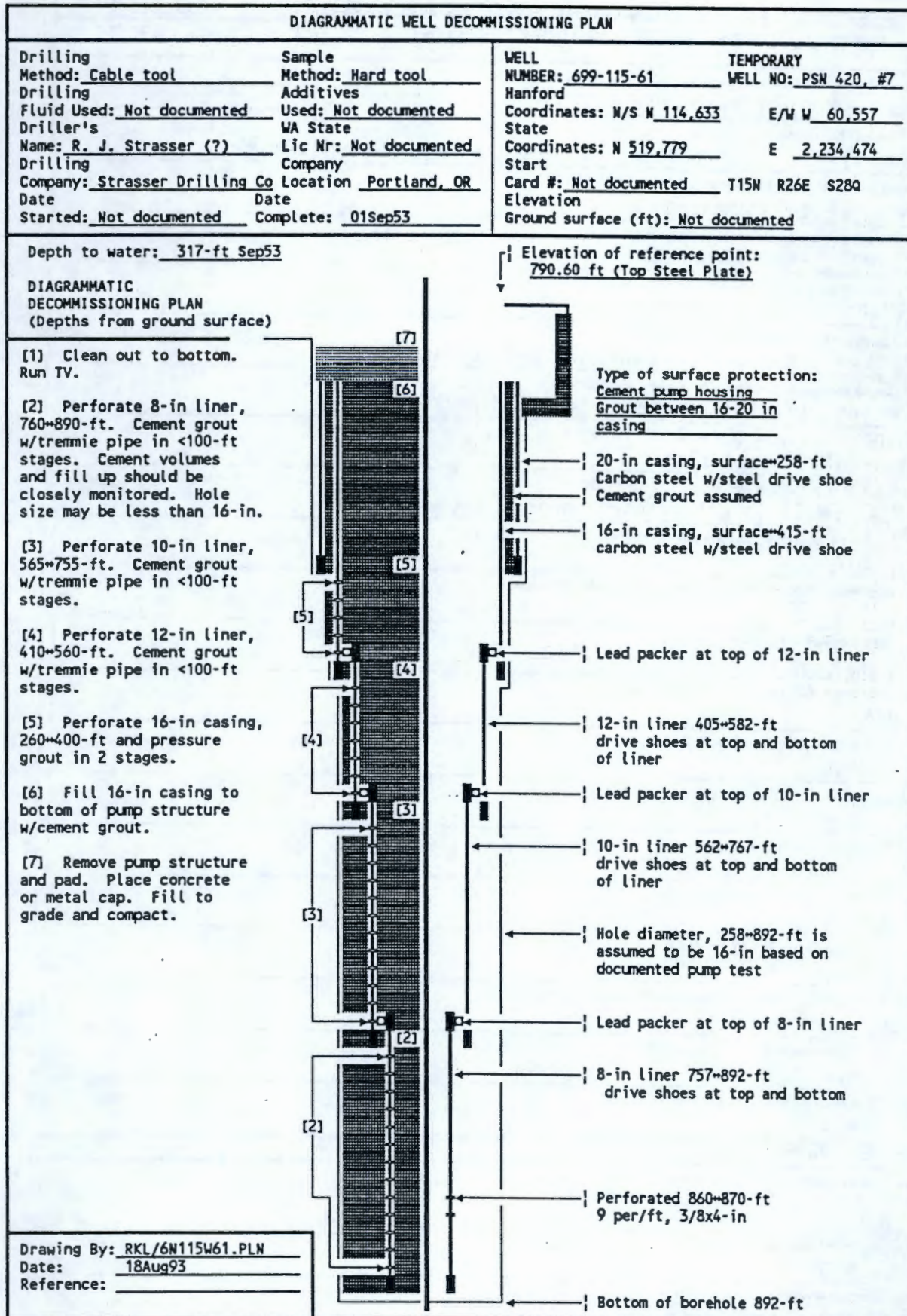
10-in ID carbon steel liner,
562-767-ft
Lead packer at top,
Drive shoes at top and bottom

8-in ID carbon steel liner,
757-892-ft
Lead packer at top,
Drive shoes at top and bottom

8-in casing perforations,
860-870-ft, 9/ft/4x4-in

Drawing By: RKL/6N115W61.ASB
Date: 04Nov93
Reference: HANFORD WELLS

Borehole drilled depth: [892-ft]



RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	1. Well No. 699-115-61 <hr/> Page 1 of 2
<p>2. Has a need for use of the well been identified and documented? [<u>No</u>] <u>No documented use</u></p> <p>3. Is well presently in use? [<u>No</u>] <u>Well is abandoned, but has not been decommissioned</u></p> <p>4. Is casing sealed in accordance with IAW WAC 173-160-0757 [<u>ND</u>] <u>Not documented</u></p> <p>4a. Natural barriers preserved? [<u>ND</u>] <u>Not documented</u></p> <p>4b. Aquifer/strata penetrated permanently sealed? [<u>ND</u>] <u>Not documented</u></p> <p>4c. Annulus sealed against surface water? [<u>Yes</u>] <u>Has concrete housing and surface casing</u></p> <p>4d. Casing overlap more than 8 ft; packed and grouted? [<u>Yes</u>] <u>Casing overlaps, has lead packers</u></p> <p>5. If not in use, is well capped IAW WAC 173-160-0857 [<u>Yes</u>] <u>Has steel plate</u></p> <p>6. Is design and construction IAW WAC 173-160-5007 [<u>N/A</u>] <u>Well is not resource protection well</u></p> <p>6a. Saturated formation/aquifers not connected? [<u>N/A</u>] _____</p> <p>6b. Cuttings/development water handled IAW WAC 173-3037 [<u>N/A</u>] _____</p> <p>6c. Well properly identified? [<u>N/A</u>] _____</p> <p>7. Is surface protection IAW WAC 173-160-5107 [<u>N/A</u>] _____</p> <p>7a. Well capped and protected? [<u>N/A</u>] _____</p> <p>7b. Protective posts, surface pad or cover installed? [<u>N/A</u>] _____</p> <p>7c. Surface protection waived or variance obtained? [<u>N/A</u>] _____</p> <p>7d. Is existing surface protection damaged? [<u>N/A</u>] _____</p> <p>8. Are casing materials IAW 173-160-5207 [<u>N/A</u>] _____</p> <p>9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-5307 [<u>N/A</u>] _____</p> <p>9a. Drill rig/equipment casing/screen cleaned? [<u>N/A</u>] _____</p> <p>9b. Filter pack cleaned? Material compatible? [<u>N/A</u>] _____</p>	
RCRA/CERCLA MONITORING WELL?	
<p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>N/A</u>] _____</p> <p>10a. Screened interval documented? [<u>N/A</u>] _____</p> <p>10b. Vertical lithology documented? [<u>Yes</u>] <u>Driller's log</u></p>	

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	1. Well No. <u>699-115-61</u> Page 2 of 2
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11. Is design and construction IAW WAC 173-160-5407
 [N/A] _____

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
 [N/A] _____

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
 [N/A] _____

11c. Well has been developed.
 [N/A] _____

11d. Annulus grouted with bentonite or bentonite/cement mixture.
 [N/A] _____

12. Does water sample meet established acceptance criteria?
 Sample is less than 5 NTU and sand free.
 [N/A] _____

13. Data Sources Used:

Logs:

Driller's: Strasser Drilling Portland OR Date: 09/01/53 Company: _____

Geologist: N/A Date: _____ Company: _____

Geophysical: N/A Date: _____ Company: _____

Television: N/A Date: _____ Company: _____

Publications: Title, Author, Date
HANFORD WELLS, V. L. McGhan, June 1989

Databases:
N/A

Field Check: WHC GWWS Date: 07/08/93 Company: _____

Other: _____

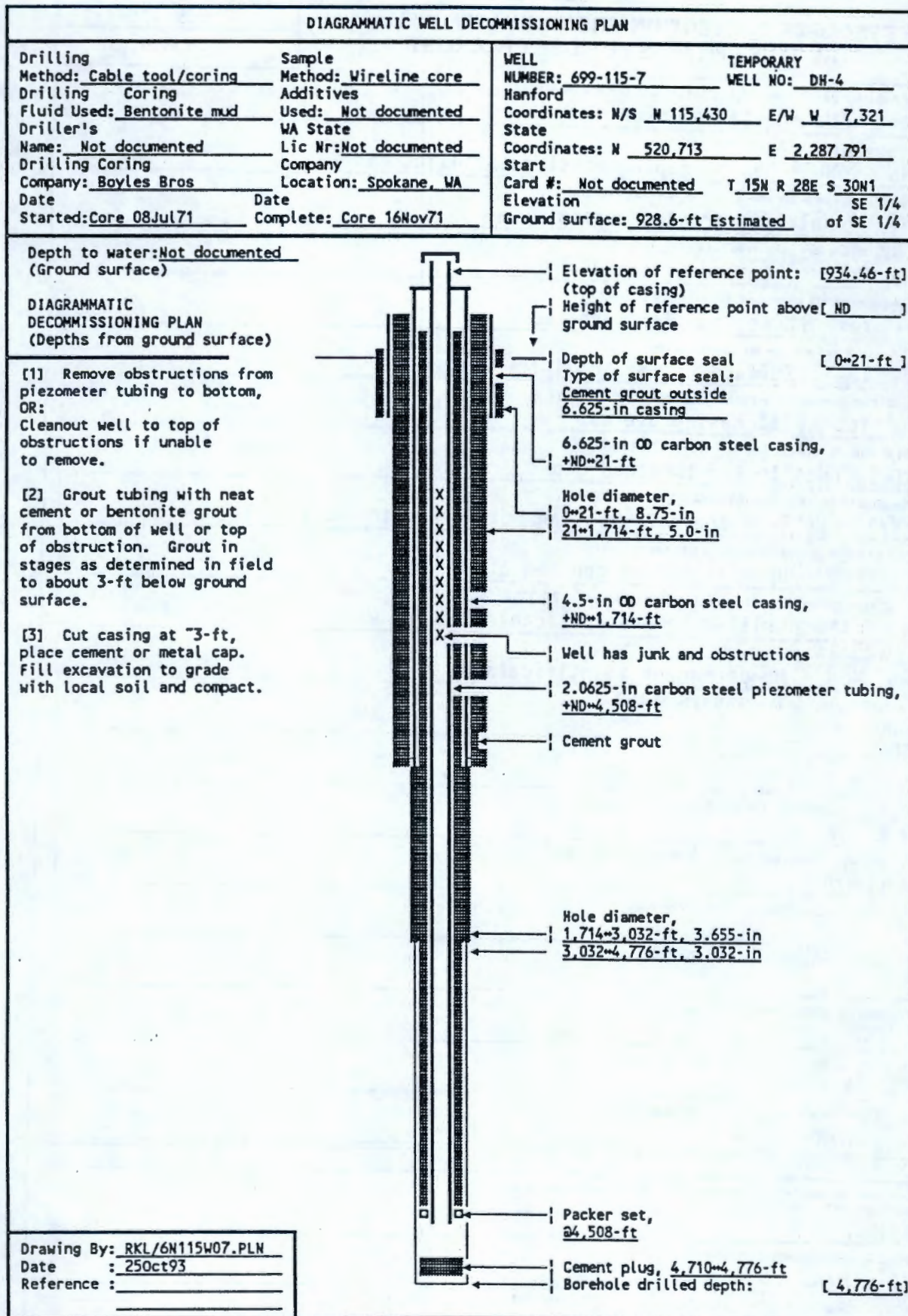
14. Comments: Identify evaluation criteria addressed by number:
[15] Well is not in use and has no documented need for use.
Decommissioning is recommended. See attached diagrammatic well
decommissioning plan.

15. Status

Well is acceptable for intended use	[<u>No</u>]	Rehabilitation required
Well is acceptable for intended use if variance is granted	[<u>No</u>]	Rehabilitation required
Rehabilitation required to continue intended use	[<u>Yes</u>]	Cleanout/redevelop
Remediation required to achieve intended use	[<u>No</u>]	Acceptable water well const.
Decommission, well is unneeded or cannot be remediated	[<u>Yes</u>]	Well is unneeded
Other _____	[<u>N/A</u>]	_____

16. Status Recommendation
 Done By: _____ Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/21/93

WELL CONSTRUCTION AND COMPLETION SUMMARY			
Drilling Method: <u>Cable tool/coring</u> Drilling: <u>Coring</u> Fluid Used: <u>Bentonite mud</u> Driller's: _____ Name: <u>Not documented</u> Drilling Coring: _____ Company: <u>Boyles Bros</u> Date: _____ Started: <u>Core 08Jul71</u>	Sample Method: <u>Wireline core</u> Additives: _____ Used: <u>Not documented</u> WA State: _____ Lic Nr: <u>Not documented</u> Company: _____ Location: <u>Spokane, WA</u> Date: _____ Complete: <u>Core 16Nov71</u>	WELL NUMBER: <u>699-115-7</u> Hanford Coordinates: W/S <u>N 115,430</u> E/W <u>W 7,321</u> State: _____ Coordinates: N <u>520,713</u> E <u>2,287,791</u> Start: _____ Card #: <u>Not documented</u> T <u>15N</u> R <u>28E</u> S <u>30N1</u> Elevation: _____ SE 1/4 Ground surface: <u>928.6-ft Estimated</u> of SE 1/4	
Depth to water: <u>Not documented</u> (Ground surface)			
GENERALIZED Geologist's STRATIGRAPHY Log			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>0~44: BASALT (Elephant Mt Member)</p> <p>44~45: TUFFSTONE (Rattlesnake Ridge Int)</p> <p>45~167: BASALT (Pomona Member)</p> <p>167~344: BASALT (Asotin Mem-Huntzinger)</p> <p>344~401: BASALT (Wilbur Creek Mem-Wahlake)</p> <p>401~424: TUFFSTONE-CLAY: (Mabton Int)</p> <p>424~507: BASALT (Priest Rapids Mem-Lolo)</p> <p>507~509: CLAY, tuffaceous (Unnamed Int)</p> <p>509~621: BASALT (Priest Rapids-Rosalie)</p> <p>621~623: SANDSTONE (Quincy Int)</p> <p>623~814: BASALT (Roza Mem-2 units)</p> <p>814~816: SANDSTONE (Squaw Creek Int)</p> <p>816~1,479: BASALT (Frenchman Springs Mem-9 units)</p> <p>1,479~1,489: SANDSTONE (Vantage Int)</p> <p>1,489~4,776: BASALT (Grande Ronde Fm->35 units)</p> </div> <div style="width: 50%; border-left: 1px solid black; padding-left: 10px;"> <div style="position: relative; height: 600px;"> <!-- Well Diagram --> <div style="position: absolute; top: 0; right: 0; text-align: right;"> Elevation of reference point: [934.46-ft] (top of casing) Height of reference point above [ND] ground surface Depth of surface seal [0~21-ft] Type of surface seal: <u>Cement grout outside</u> <u>6.625-in casing</u> 6.625-in OD carbon steel casing, <u>+ND~21-ft</u> Hole diameter, 0~21-ft, 8.75-in 21~1,714-ft, 5.0-in 4.5-in OD carbon steel casing, <u>+ND~1,714-ft</u> Well has junk and obstructions 2.0625-in carbon steel piezometer tubing, <u>+ND~4,508-ft</u> Cement grout Hole diameter, 1,714~3,032-ft, 3.655-in 3,032~4,776-ft, 3.032-in Packer set, <u>4,508-ft</u> Cement plug, 4,710~4,776-ft Borehole drilled depth: [4,776-ft] </div> </div> </div> </div>			
Drawing By: <u>RKL/6N115W07.ASB</u> Date: <u>25Oct93</u> Reference: _____			



RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST	1. Well No. <u>699-115-7</u> Page 1 of 2
<p>2. Has a need for use of the well been identified and documented? [<u>No</u>] <u>No identified user</u></p> <p>3. Is well presently in use? [<u>No</u>] <u>Well has been plugged since drilling</u></p> <p>4. Is casing sealed in accordance with IAW WAC 173-160-075? [<u>Yes</u>] <u>Multiple grouted casings</u></p> <p>4a. Natural barriers preserved? [<u>Yes</u>] <u>Interbeds grouted</u></p> <p>4b. Aquifer/strata penetrated permanently sealed? [<u>Yes</u>] <u>Upper aquifers grouted</u></p> <p>4c. Annulus sealed against surface water? [<u>Yes</u>] <u>Surface casing to 21-ft</u></p> <p>4d. Casing overlap more than 8 ft; packed and grouted? [<u>Yes</u>] <u>All casing overlap</u></p> <p>5. If not in use, is well capped IAW WAC 173-160-085? [<u>Yes</u>] <u>Has locked threaded cap</u></p> <p>6. Is design and construction IAW WAC 173-160-500? [<u>N/A</u>] <u>Well is characterization not monitoring well</u></p> <p>6a. Saturated formation/aquifers not connected? [<u>Yes</u>] <u>Upper aquifers grouted off</u></p> <p>6b. Cuttings/development water handled IAW WAC 173-303? [<u>N/A</u>] <u>Drilled before applicable date of WAC 173-303</u></p> <p>6c. Well properly identified? [<u>No</u>] <u>No permanent identification</u></p> <p>7. Is surface protection IAW WAC 173-160-510? [<u>N/A</u>] _____</p> <p>7a. Well capped and protected? [<u>N/A</u>] _____</p> <p>7b. Protective posts, surface pad or cover installed? [<u>N/A</u>] _____</p> <p>7c. Surface protection waived or variance obtained? [<u>N/A</u>] _____</p> <p>7d. Is existing surface protection damaged? [<u>N/A</u>] _____</p> <p>8. Are casing materials IAW 173-160-520? [<u>N/A</u>] _____</p> <p>9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530? [<u>N/A</u>] _____</p> <p>9a. Drill rig/equipment casing/screen cleaned? [<u>N/A</u>] _____</p> <p>9b. Filter pack cleaned? Material compatible? [<u>N/A</u>] _____</p> <p>RCRA/CERCLA MONITORING WELL?</p> <p>10. Does water sample from vertical screened interval represent horizontal stratigraphy? [<u>N/A</u>] _____</p> <p>10a. Screened interval documented? [<u>N/A</u>] _____</p> <p>10b. Vertical lithology documented? [<u>Yes</u>] <u>Geologist's core log</u></p>	

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST		1. Well No. 699-115-7
		Page 2 of 2
11. Is design and construction IAW WAC 173-160-540? [<u>N/A</u>]		
11a. Screen commercially fabricated of material nonreactive to subsurface conditions? [<u>N/A</u>]		
11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen. [<u>N/A</u>]		
11c. Well has been developed. [<u>N/A</u>]		
11d. Annulus grouted with bentonite or bentonite/cement mixture. [<u>N/A</u>]		
12. Does water sample meet established acceptance criteria? Sample is less than 5 NTU and sand free. [<u>N/A</u>]		
13. Data Sources Used:		
Logs:		
Driller's: <u>Boylea Brothers, Spokane WA</u>	Date: <u>11/16/71</u>	Company: _____
Geologist: <u>Atlantic Richfield Co</u>	Date: <u>11/16/71</u>	Company: _____
Geophysical: <u>N/A</u>	Date: _____	Company: _____
Television: <u>N/A</u>	Date: _____	Company: _____
Publications: Title, Author, Date		
<u>Hole History, Corehole DH-4 and DH-5, 1972, Fenix and Scisson,</u>		
<u>Richland, WA</u>		
Databases:		
<u>N/A</u>		
Field Check: <u>N/A</u>	Date: _____	Company: _____
Other:		
14. Comments: Identify evaluation criteria addressed by number:		
[15] Well is unneeded and has never been usable. Well should be		
decommissioned.		
15. Status		
Well is acceptable for intended use	[<u>No</u>]	<u>Well is plugged</u>
Well is acceptable for intended use if variance is granted	[<u>No</u>]	<u>Well is not usable</u>
Rehabilitation required to continue intended use	[<u>No</u>]	<u>Well is unneeded</u>
Remediation required to achieve intended use	[<u>No</u>]	<u>Not economic</u>
Decommission, well is unneeded or cannot be remediated	[<u>Yes</u>]	<u>Well is unneeded</u>
Other	[_____]	_____
16. Status Recommendation		
Done By: <u>R. K. Ledgerwood</u>	Title: <u>Principal Scientist</u>	Date: <u>10/29/93</u>

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